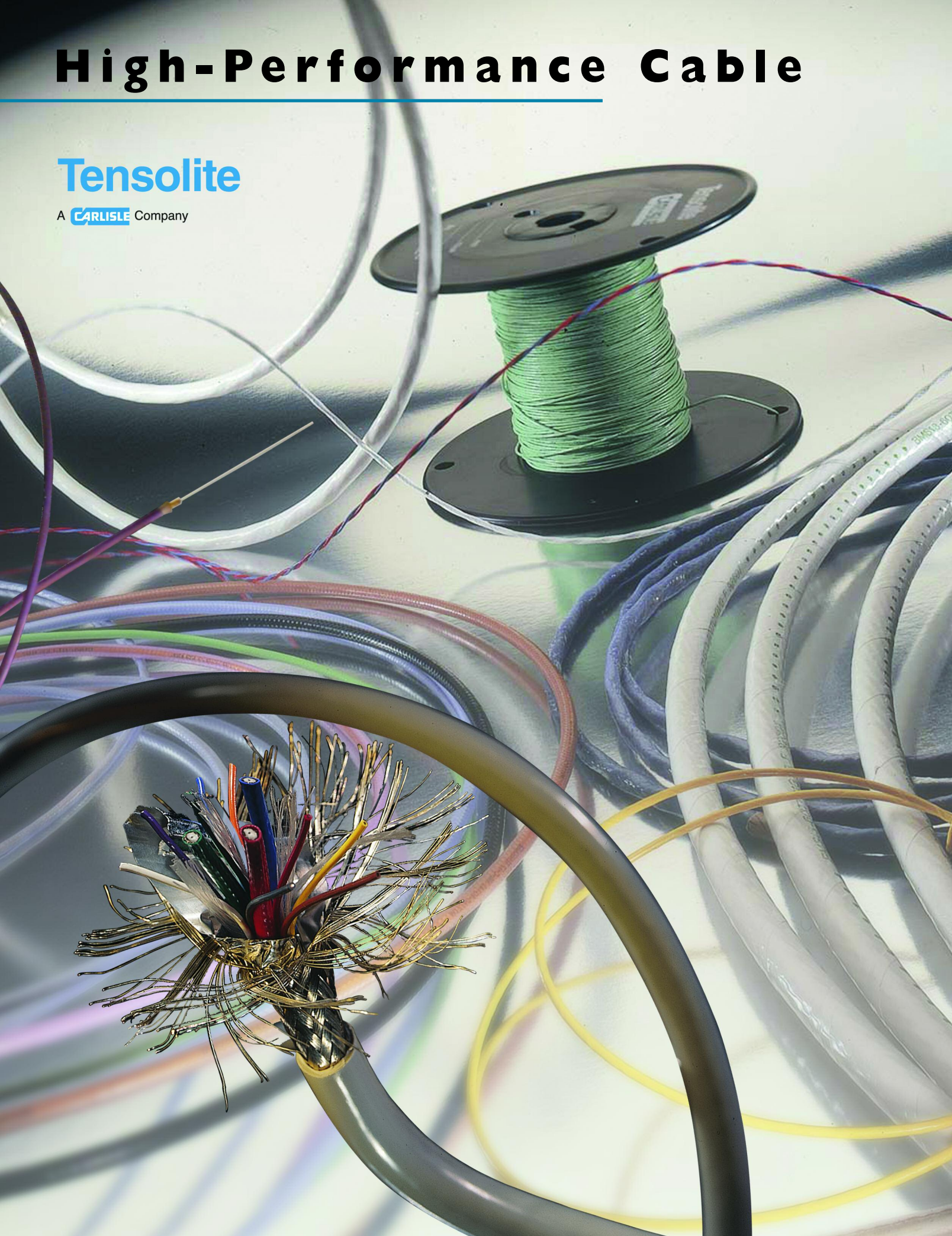


# High-Performance Cable

Tensolite

A CARLISLE Company



# Tensolite, A Carlisle Company

Tensolite

**F**or over fifty years Tensolite has been providing leading-edge designs in wire and cable. This product guide is intended to provide a well focused presentation of our product line in regards to your market and products. Although it is by no means complete in regards to Tensolite's capabilities, it should provide a thorough starting point to aid you in your design considerations. The following Table of Contents should provide you with a good idea of how to utilize this guide to it's fullest potential; your end result being a wire or cable that you have specified to your own requirements and needs.

**T**hank you in advance for considering Tensolite for your cabling requirements and needs. Please feel free to contact your local Tensolite representative or call our corporate office at the number listed below.

## **Tensolite Company**

*A Carlisle Company*

100 Tensolite Drive

St. Augustine, FL 32092

**Phone:** 1-800-458-9960

**Fax:** 904-829-3447

[www.tensolite.com](http://www.tensolite.com)

**Tensolite**

A **CARLISLE** Company

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## Specialty Products

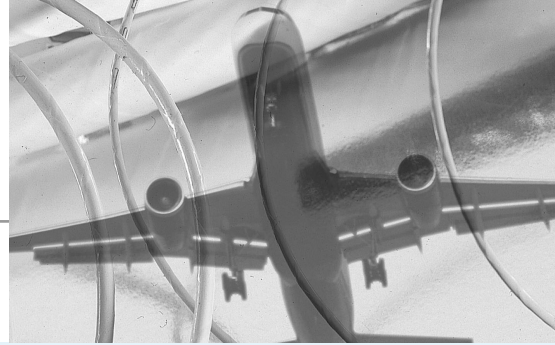
### ACCULITE™

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# General Purpose Airframe Wire

## Tufflite® 2000



In the early 1990s, Tensolite developed composite insulated Tufflite® 2000 to address the critical weaknesses of existing airframe wire designs. Other constructions such as polyimide and XL-ETFE failed to provide a good balance of properties in areas such as arc-resistance, weight, size, temperature performance, smoke generation, and flammability. Tufflite® 2000 addresses the need for a small, lightweight, arc resistant, 260°C rated general purpose wire.

For over a decade, Tufflite® 2000 has been tested and flown on thousands of commercial and military aircraft. Its superior smoke, flame and toxicity performance enables it to be used safely in both pressurized and non-pressurized zones of the aircraft. Tufflite® 2000's wide temperature range and overall balance of properties make it an ideal replacement for all other general-purpose wire types, both military and commercial (see page 20 for a partial list). Tufflite® 2000 is available in sizes from 26 to 4/0 AWG and is both hot stamp and laser markable.



**Tensolite**

A CARUSLE Company

**Call:** 800-458-9960

# Tufflite® 2000 Features and Benefits

## **SLT - Thin Wall, Light Weight**

A thin wall, light weight version of ST which can be used in various constructions. It also has value when considered as a single conductor offering a 5% weight savings over the ST construction while maintaining the same mechanical properties. SLT is available in 150°C, 200°C and 260°C.

## **TLR - Metric Light Weight Multi-purpose**

Encompasses a metric family of wire and cable with a temperature rating of 260°C. TLR is a multi-purpose normal weight wire which exhibits exceptional performance characteristics within the range of the critical parameters in airframe applications. 200°C and 260°C.

## **ST - Normal Weight, Multi-purpose**

Encompasses a family of wire and cable in three temperature ratings: 150°C, 200°C, 260°C. ST is a multi-purpose normal weight wire which exhibits exceptional performance characteristics within the range of the critical parameters in airframe applications. This construction offers enhanced Hydrolysis Resistance and Cut-Through.

## **TLS - Thick Wall, Abrasion Resistant**

An increased wall version which can be utilized in applications requiring superior mechanical capabilities such as abrasion resistance and dynamic cut-through. This insulation system may be used as a reduced size and weight replacement for MIL-W-22759/5 to /8. TLS is rated at 260°C.

## **TLA - Aluminum Conductor**

An increased wall thickness version utilizing an aluminum conductor for power feeder applications. Improved mechanical performance including superior flexibility as compared to traditional polyimide insulated power feeder cables. TLA is rated at 175°C.



# Tufflite® 2000 Selection Guide

Use this table to select the wire that best fits your requirements.

	SLT	TLR	ST	TLS	TLA
Relative Insulation Thickness	Thin	Thin	Medium	Thick	Thick
Voltage Rating	600	600	600	600	600
Temperature Rating	150°C 200°C 260°C	260°C	150°C 200°C 260°C	260°C	175°C
Conductor Material	Copper Copper alloy	Copper Copper alloy	Copper Copper alloy	Copper Copper alloy	Aluminum
Conductor Coating	Tin Silver Nickel	Nickel	Tin Silver Nickel	Nickel	–
AWG Range	26-10	26-2	26-4/0	24-4/0	8-4/0

## Features and Benefits

### Safest Wire in the Air®

#### Excellent Temperature Performance

- Available in 150°C, 175°C, 200°C and 260°C
- Superior thermal life characteristics
- The safety of high temperature resistant insulation in overload conditions independent of conductor

#### Superior Flammability and Smoke Generation Properties

- Practically zero smoke generation and excellent resistance to flammability

#### Excellent Resistance to Arc Propagation

- Superior resistance to wet and dry arc propagation

#### Light Weight and Small Diameter

- SLT has an approximate 5% weight savings over medium wall ST construction

#### Best Balance of Properties

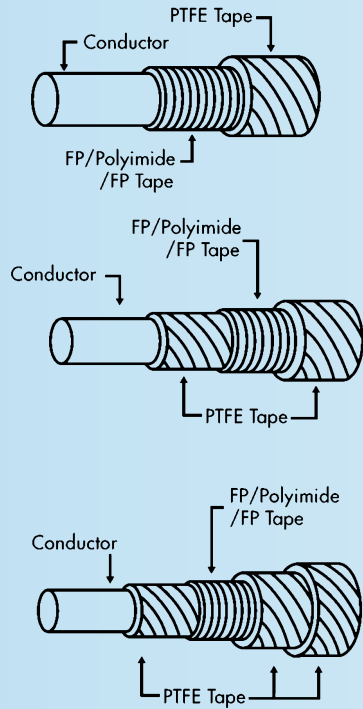
- Excellent flexibility and flex life
- Highly resistant to hydrolysis
- Superior abrasion resistance and cut-through performance

# Tufflite® Part Numbering Guide

Family of Wire	Temperature Rating (°C)	No. of Conductors (not used for single insulated wire)	Shield & Jacket (not used for single insulated wire)	AWG Size	Conductor Material
<b>ST</b>	<b>200</b>	<b>2</b>	<b>SJ</b>	<b>22</b>	<b>S</b>
SLT Thin Wall	150° 200° 260°		T = TCC Shield S = SCC Shield N = NCC Shield F denotes flat shield	26 to 10	T = Tin Coated Copper S = Silver Coated Copper SA = Silver Coated Copper Alloy N = Nickel Coated Copper NA = Nickel Coated Copper Alloy
TLR	260°		N = NCC Shield*	26 to 2	N = Nickel Coated Copper NA = Nickel Coated Copper Alloy
ST Enhanced Medium Wall	150° 200° 260°		T = TCC Shield S = SCC Shield N = NCC Shield F denotes flat shield	26 to 4/0	T = Tin Coated Copper S = Silver Coated Copper SA = Silver Coated Copper Alloy N = Nickel Coated Copper NA = Nickel Coated Copper Alloy
TLS Thick Wall	260°		N = NCC Shield F denotes flat shield	24 to 4/0	N = Nickel Coated Copper NA = Nickel Coated Copper Alloy
TLA Thick Wall	175°			8 to 4/0	A = EC Aluminum

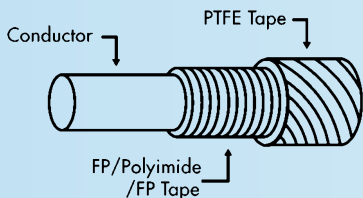
\*1-4 conductor spiral shield  
5-7 conductor braid shield

# ST Single Conductor • Medium Wall



AWG	AS22759					Diameter (inches)		Weight (lbs/1000ft)	Diameter (MM)		Weight (kg/km)
	/86 SCC 200°C	/87 NCC 260°C	/88 TCC 150°C	/89 SCCA 200°C	/90 NCCA 260°C						
						Min	Max	Max	Min	Max	Max
26	•	•		•	•	0.033	0.037	1.55	0.84	0.94	2.31
24	•	•		•	•	0.038	0.042	2.20	0.97	1.07	3.27
22	•	•	•	•	•	0.043	0.047	3.00	1.09	1.19	4.46
20	•	•	•	•	•	0.051	0.055	4.55	1.30	1.40	6.77
18	•	•	•			0.061	0.065	6.70	1.55	1.65	9.97
16	•	•	•			0.068	0.073	8.60	1.73	1.85	12.80
14	•	•	•			0.081	0.086	12.95	2.06	2.18	19.27
12	•	•	•			0.100	0.105	20.10	2.54	2.67	29.91
10	•	•	•			0.122	0.127	31.40	3.10	3.23	46.72
8	•	•	•			0.180	0.188	57.60	4.57	4.78	85.71
6	•	•	•			0.219	0.229	88.30	5.56	5.82	131.4
4	•	•	•			0.276	0.288	143.00	7.01	7.32	212.8
2	•	•	•			0.344	0.364	223.00	8.74	9.25	331.8
1	•	•	•			0.388	0.408	289.00	9.86	10.36	430.0
1/0	•	•	•			0.420	0.450	345.00	10.67	11.43	513.4
2/0	•	•	•			0.475	0.505	432.00	12.07	12.83	642.8
3/0	•	•	•			0.530	0.560	542.00	13.46	14.22	806.5
4/0	•	•	•			0.590	0.630	681.00	14.99	16.00	1013

# SLT Single Conductor • Thin Wall

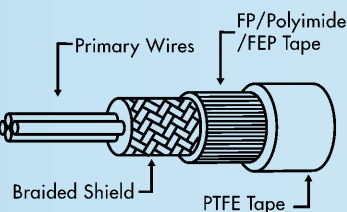
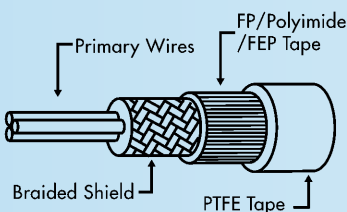
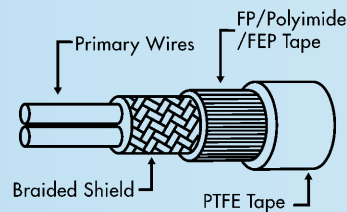
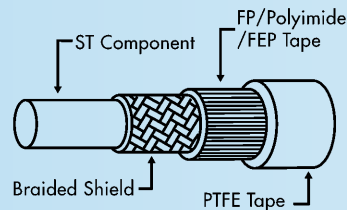


AWG						Diameter (inches)		Weight (lbs/1000ft)	Diameter (MM)		Weight (kg/km)	
												/80 TCC 150°C
26			•	•	•	•	0.030	0.034	1.43	0.76	0.86	2.13
24			•	•	•	•	0.034	0.038	1.93	0.86	.097	2.87
22	•	•	•	•	•	•	0.040	0.043	2.85	1.02	1.09	4.24
20	•	•	•	•	•	•	0.048	0.051	4.38	1.22	1.30	6.52
18	•	•	•				0.056	0.060	6.60	1.42	1.52	9.82
16	•	•	•				0.063	0.067	8.30	1.60	1.70	12.35
14	•	•	•				0.076	0.080	12.60	1.93	2.03	18.75
12	•	•	•				0.096	0.100	19.60	2.44	2.54	29.16
10	•	•	•				0.119	0.123	30.60	3.02	3.12	45.53



# ST Round Shielded & Jacketed • Medium Wall

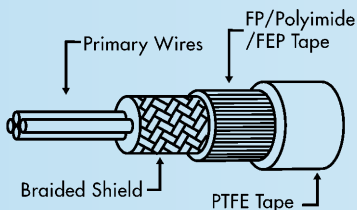
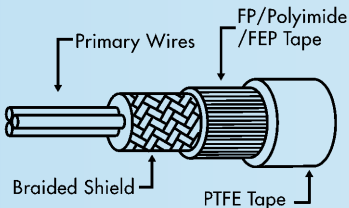
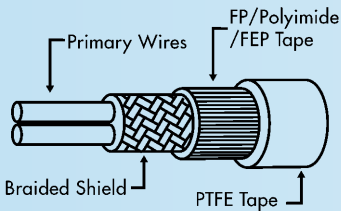
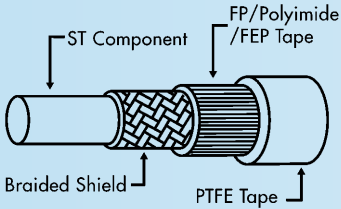
M27500 WJ, WK, WL, WM, WN



AWG	Diameter (inches)		Weight (lbs per 1000 ft.)	Diameter (MM)		Weight (kg/km)
	Min	Max		Min	Max	
<b>1 Conductor</b>						
26	0.059	0.065	4.65	1.50	1.65	6.92
24	0.063	0.069	5.65	1.60	1.75	8.41
22	0.069	0.075	6.75	1.75	1.91	10.04
20	0.076	0.084	8.95	1.93	2.13	13.32
18	0.084	0.094	11.60	2.13	2.39	17.26
16	0.092	0.102	14.10	2.34	2.59	20.98
14	0.105	0.115	19.40	2.67	2.92	28.87
12	0.123	0.137	28.00	3.12	3.48	41.66
10	0.145	0.159	40.50	3.68	4.04	60.26
<b>2 Conductor</b>						
26	0.092	0.102	7.65	2.34	2.59	11.38
24	0.100	0.110	9.35	2.54	2.79	13.91
22	0.107	0.121	12.05	2.72	3.07	17.93
20	0.121	0.139	15.65	3.07	3.53	23.29
18	0.137	0.159	21.45	3.48	4.04	31.92
16	0.153	0.175	25.85	3.89	4.45	38.46
14	0.179	0.201	37.30	4.55	5.11	55.50
12	0.222	0.244	54.50	5.64	6.20	81.10
10	0.264	0.290	79.50	6.71	7.37	118.30
<b>3 Conductor</b>						
26	0.092	0.103	10.06	2.34	2.62	14.97
24	0.100	0.112	12.25	2.54	2.84	18.23
22	0.108	0.124	16.00	2.74	3.15	23.81
20	0.126	0.141	21.40	3.20	3.58	31.84
18	0.141	0.165	29.50	3.58	4.19	43.90
16	0.158	0.182	35.80	4.01	4.62	53.27
14	0.184	0.212	52.30	4.67	5.38	77.82
12	0.229	0.259	78.00	5.82	6.58	116.06
10	0.278	0.313	117.00	7.06	7.95	174.10
<b>4 Conductor</b>						
26	0.100	0.113	12.25	2.54	2.87	18.23
24	0.111	0.122	15.15	2.82	3.10	22.54
22	0.121	0.137	19.80	3.07	3.48	29.46
20	0.140	0.156	27.15	3.56	3.96	40.40
18	0.158	0.182	38.00	4.01	4.62	56.54
16	0.177	0.201	46.00	4.50	5.11	68.45
14	0.208	0.239	68.00	5.28	6.07	101.18
12	0.256	0.288	100.00	6.50	7.32	148.80
10	0.310	0.348	152.00	7.87	8.84	226.18

# ST Flat Shielded & Jacketed • Medium Wall

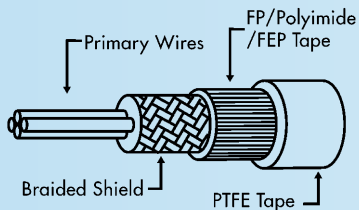
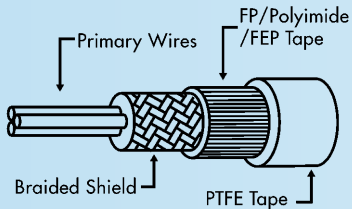
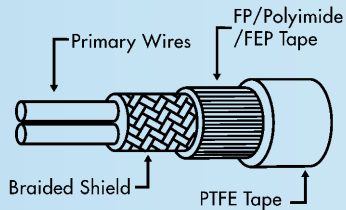
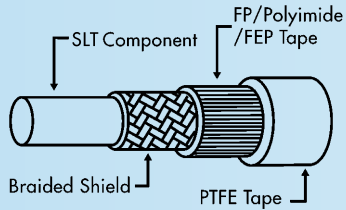
M27500 WJ, WK, WL, WM, WN



AWG	Diameter (inches)		Weight (lbs/1000ft)	Diameter (MM)		Weight (kg/km)
	Min	Max		Min	Max	
<b>1 Conductor</b>						
26	0.048	0.054	3.35	1.22	1.37	4.98
24	0.052	0.058	3.99	1.32	1.47	5.94
22	0.058	0.064	5.05	1.47	1.63	7.51
20	0.065	0.073	6.95	1.65	1.85	10.34
18	0.073	0.083	9.55	1.85	2.11	14.21
16	0.081	0.091	11.70	2.06	2.31	17.41
14	0.093	0.105	16.60	2.36	2.67	24.70
12	0.112	0.126	24.60	2.84	3.20	36.60
10	0.134	0.148	36.23	3.40	3.76	53.91
<b>2 Conductor</b>						
26	0.081	0.091	5.85	2.06	2.31	8.70
24	0.082	0.092	7.16	2.08	2.34	10.65
22	0.092	0.106	9.35	2.34	2.69	13.91
20	0.106	0.124	13.15	2.69	3.15	19.57
18	0.126	0.148	18.40	3.20	3.76	27.38
16	0.142	0.164	22.60	3.61	4.17	33.63
14	0.168	0.190	32.60	4.27	4.83	48.51
12	0.208	0.230	48.50	5.28	5.84	72.17
10	0.250	0.276	73.00	6.35	7.01	108.62
<b>3 Conductor</b>						
26	0.081	0.092	7.70	2.06	2.34	11.46
24	0.089	0.101	9.65	2.26	2.57	14.36
22	0.097	0.113	12.90	2.46	2.87	19.20
20	0.115	0.130	18.25	2.92	3.30	27.16
18	0.130	0.154	26.10	3.30	3.91	38.84
16	0.147	0.171	32.10	3.73	4.34	47.76
14	0.173	0.201	46.60	4.39	5.11	69.34
12	0.218	0.248	71.10	5.54	6.30	105.80
10	0.263	0.298	107.00	6.68	7.57	159.22
<b>4 Conductor</b>						
26	0.089	0.102	9.65	2.26	2.59	14.36
24	0.100	0.111	12.30	2.54	2.82	18.30
22	0.110	0.126	16.60	2.79	3.20	24.70
20	0.129	0.145	23.80	3.28	3.68	35.41
18	0.147	0.171	33.70	3.73	4.34	50.15
16	0.166	0.190	41.60	4.22	4.83	61.90
14	0.200	0.225	61.80	5.08	5.72	91.96
12	0.245	0.277	93.50	6.22	7.04	139.13
10	0.295	0.333	140.00	7.49	8.46	208.32

# SLT Round Shielded & Jacketed • Thin Wall

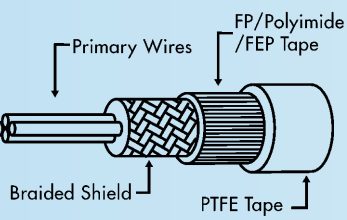
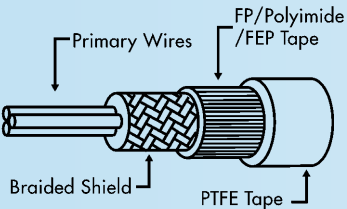
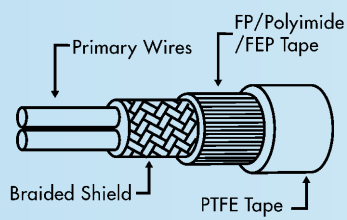
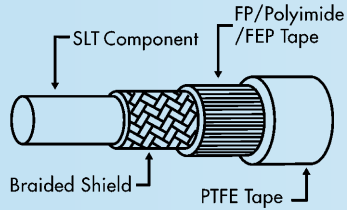
M27500 WB, WC, WE, WP, WR



AWG	Diameter (inches)		Weight (lbs/1000ft)	Diameter (MM)		Weight (kg/km)
	Min	Max		Min	Max	
<b>1 Conductor</b>						
26	0.055	0.062	4.45	1.40	1.57	6.62
24	0.060	0.066	5.45	1.52	1.68	8.11
22	0.065	0.072	6.50	1.65	1.83	9.67
20	0.072	0.081	8.45	1.83	2.06	12.57
18	0.080	0.090	11.30	2.03	2.29	16.81
16	0.087	0.097	13.40	2.21	2.46	19.94
14	0.100	0.110	18.60	2.54	2.79	27.68
12	0.118	0.132	27.00	3.00	3.35	40.18
10	0.141	0.155	39.50	3.58	3.94	58.78
<b>2 Conductor</b>						
26	0.085	0.095	7.10	2.16	2.41	10.56
24	0.087	0.097	8.75	2.21	2.46	13.02
22	0.100	0.114	11.20	2.54	2.90	16.67
20	0.114	0.132	15.30	2.90	3.35	22.77
18	0.129	0.151	20.80	3.28	3.84	30.95
16	0.143	0.165	25.00	3.63	4.19	37.20
14	0.169	0.191	36.00	4.29	4.85	53.57
12	0.212	0.234	53.00	5.38	5.94	78.86
10	0.256	0.282	78.00	6.50	7.16	116.06
<b>3 Conductor</b>						
26	0.085	0.095	9.30	2.16	2.41	13.84
24	0.094	0.106	11.40	2.39	2.69	16.96
22	0.100	0.117	15.10	2.54	2.97	22.47
20	0.118	0.134	20.70	3.00	3.40	30.80
18	0.132	0.156	28.45	3.35	3.96	42.33
16	0.147	0.171	34.68	3.73	4.34	51.60
14	0.174	0.201	51.00	4.42	5.11	75.89
12	0.219	0.248	75.50	5.56	6.30	112.34
10	0.270	0.304	115.00	6.86	7.72	171.12
<b>4 Conductor</b>						
26	0.092	0.104	11.40	2.34	2.64	16.96
24	0.103	0.115	14.10	2.62	2.92	20.98
22	0.113	0.128	18.90	2.87	3.25	28.12
20	0.131	0.148	26.10	3.33	3.76	38.84
18	0.148	0.172	36.30	3.76	4.37	54.01
16	0.165	0.189	44.50	4.19	4.80	66.22
14	0.194	0.223	66.80	4.93	5.66	99.40
12	0.243	0.276	98.00	6.17	7.01	145.82
10	0.300	0.339	150.00	7.62	8.61	223.20

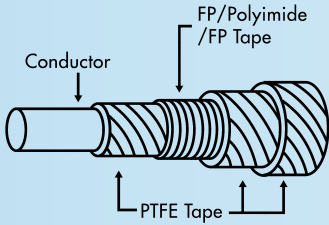
# SLT Flat Shielded & Jacketed • Thin Wall

M27500 WB, WC, WE, WP, WR



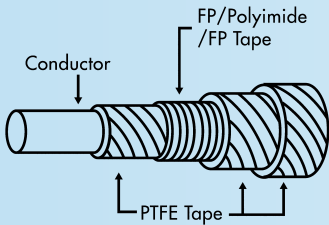
AWG	Diameter (inches)		Weight (lbs/1000ft)	Diameter (MM)		Weight (kg/km)
	Min	Max		Min	Max	
<b>1 Conductor</b>						
26	0.044	0.051	2.98	1.12	1.30	4.43
24	0.049	0.055	3.77	1.24	1.40	5.61
22	0.054	0.061	4.77	1.37	1.55	7.10
20	0.061	0.070	6.71	1.55	1.78	9.98
18	0.070	0.078	9.25	1.78	1.98	13.76
16	0.076	0.086	11.17	1.93	2.18	16.62
14	0.089	0.099	16.00	2.26	2.51	23.81
12	0.108	0.120	23.60	2.74	3.05	35.12
10	0.131	0.143	35.50	3.33	3.63	52.82
<b>2 Conductor</b>						
26	0.075	0.083	5.29	1.91	2.11	7.87
24	0.076	0.086	6.60	1.93	2.18	9.82
22	0.086	0.100	8.76	2.18	2.54	13.03
20	0.101	0.117	12.50	2.57	2.97	18.60
18	0.120	0.138	17.50	3.05	3.51	26.04
16	0.134	0.152	21.65	3.40	3.86	32.22
14	0.159	0.179	31.24	4.04	4.55	46.49
12	0.202	0.222	47.60	5.13	5.64	70.83
10	0.248	0.268	72.00	6.30	6.81	107.14
<b>3 Conductor</b>						
26	0.074	0.084	7.05	1.88	2.13	10.49
24	0.083	0.095	8.89	2.11	2.41	13.23
22	0.089	0.106	12.20	2.26	2.69	18.15
20	0.107	0.123	17.55	2.72	3.12	26.11
18	0.121	0.145	25.00	3.07	3.68	37.20
16	0.136	0.160	30.90	3.45	4.06	45.98
14	0.163	0.190	45.20	4.14	4.83	67.26
12	0.208	0.237	69.50	5.28	6.02	103.42
10	0.256	0.288	105.00	6.50	7.32	156.24
<b>4 Conductor</b>						
26	0.081	0.093	8.89	2.06	2.36	13.23
24	0.092	0.104	11.40	2.34	2.64	16.96
22	0.102	0.117	15.70	2.59	2.97	23.36
20	0.120	0.137	22.70	3.05	3.48	33.78
18	0.137	0.161	32.50	3.48	4.09	48.36
16	0.154	0.178	40.30	3.91	4.52	59.97
14	0.183	0.212	59.00	4.65	5.38	87.79
12	0.232	0.265	90.00	5.89	6.73	133.92
10	0.285	0.324	138.00	7.24	8.23	205.34

# TLS Single Conductor • Thick Wall



AWG	Diameter (inches)		Weight (lbs/1000ft)	Diameter (MM)		Weight (kg/km)
	Min	Max	Max	Min	Max	Max
24	0.060	0.066	3.75	1.52	1.68	5.58
22	0.064	0.070	4.90	1.63	1.78	7.29
20	0.070	0.078	6.60	1.78	1.98	9.82
18	0.080	0.088	9.20	2.03	2.24	13.69
16	0.086	0.096	11.20	2.18	2.44	16.67
14	0.097	0.111	15.90	2.46	2.82	23.66
12	0.116	0.130	23.60	2.95	3.30	35.12
10	0.137	0.153	36.00	3.48	3.89	53.57
8	0.185	0.203	62.60	4.70	5.16	93.15
6	0.225	0.243	94.90	5.72	6.17	141.2
4	0.280	0.308	149.5	7.11	7.82	222.5
2	0.356	0.376	230.6	9.04	9.55	343.1
1	0.399	0.425	290.0	10.13	10.80	431.5
1/0	0.435	0.465	362.0	11.05	11.81	538.7
2/0	0.485	0.515	451.0	12.32	13.08	671.1
3/0	0.540	0.590	563.0	13.72	14.99	837.7
4/0	0.590	0.640	701.0	14.99	16.26	1043

# TLA Single Conductor • Thick Wall Aluminum

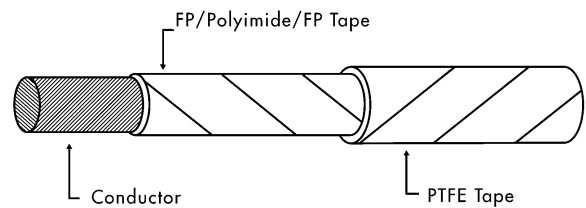
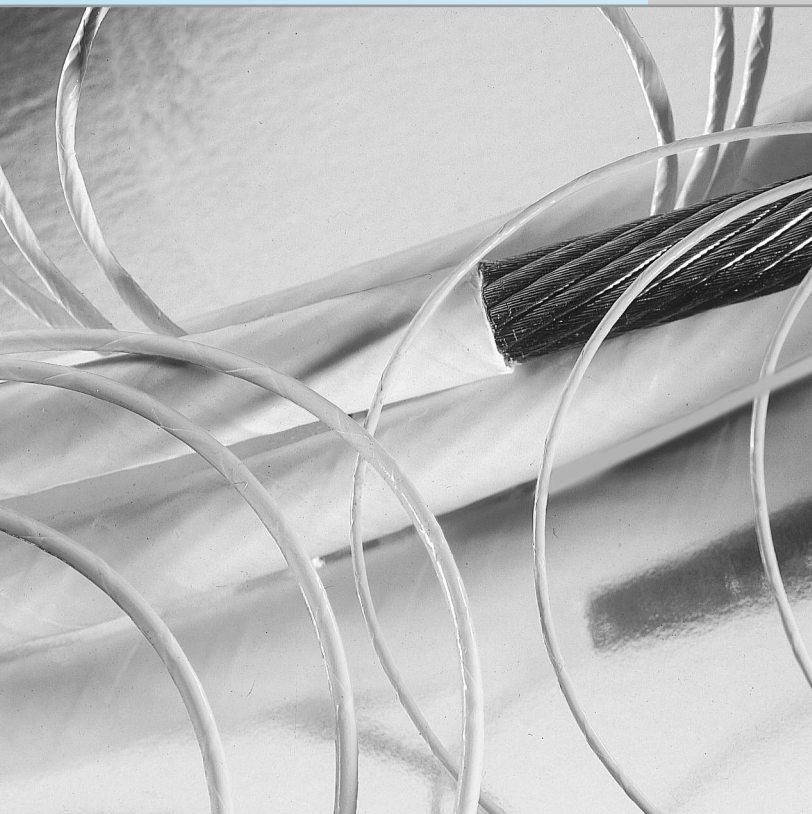


8	0.187	0.207	28.1	4.75	5.26	41.81
6	0.238	0.258	42.9	6.05	6.55	63.84
4	0.284	0.314	61.5	7.21	7.98	91.51
2	0.352	0.382	93.5	8.94	9.70	139.1
1	0.390	0.420	119.4	9.91	10.67	177.7
1/0	0.440	0.470	142.3	11.18	11.94	211.7
2/0	0.490	0.530	177.0	12.45	13.46	263.4
3/0	0.547	0.587	218.0	13.89	14.91	324.4
4/0	0.599	0.639	268.0	15.21	16.23	398.8

# TLR Metric Overview

## SINGLE CONDUCTOR EN2267-010 (DR)

Tensolite Part Number	EN Reference	AWG	Diameter (inches)		Weight (lbs/1000ft)	Diameter (mm)		Weight
			Min	Max	Max	Min	Max	Max
TLR-260-26NA	EN 2267-010-A 001S	26	0.0295	0.0331	1.40	0.75	0.84	2.08
TLR-260-24NA	EN 2267-010-A 002S	24	0.0335	0.0378	1.83	0.85	0.96	2.72
TLR-260-22N	EN 2267-010-A 004S	22	0.0394	0.0433	2.78	1.00	1.10	4.14
TLR-260-20N	EN 2267-010-A 006S	20	0.0480	0.0528	4.60	1.22	1.34	6.85
TLR-260-18N	EN 2267-010-A 010S	18	0.0575	0.0634	7.01	1.46	1.61	10.43
TLR-260-16N	EN 2267-010-A 012S	16	0.0693	0.0756	9.82	1.76	1.92	14.61
TLR-260-14N	EN 2267-010-A 020S	14	0.0803	0.0882	13.29	2.04	2.24	19.78
TLR-260-12N	EN 2267-010-A 030S	12	0.0984	0.1063	21.06	2.50	2.70	31.33
TLR-260-10N	EN 2267-010-A 051S	10	0.1232	0.1311	33.50	3.13	3.33	49.85
TLR-260-8N	EN 2267-010-A 090S	8	0.1614	0.1732	60.48	4.10	4.40	90.00
TLR-260-6N	EN 2267-010-A 140S	6	0.2087	0.2244	90.73	5.30	5.70	135.0
TLR-260-4N	EN 2267-010-A 220S	4	0.2638	0.2917	149.2	6.70	7.41	222.0
TLR-260-2N	EN 2267-010-A 340S	2	0.3260	0.3606	233.2	8.28	9.16	347.0

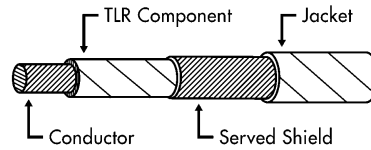


# TLR Metric

## SHIELDED AND JACKETED - EN2714-013 (ML) & -014 (MM)

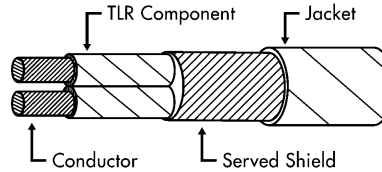
Tensolite Part Number	EN Reference	AWG	Diameter (inches)	Weight (lbs/1000ft)	Diameter (MM)	Weight (kg/km)
			Max	Max	Max	Max

### 1 Conductor - EN2714-013 ML A



TLR-260-1NJ-26NA	EN 2714-013-A 001F	26	0.052	3.15	1.31	4.68
TLR-260-1NJ-24NA	EN 2714-013-A 002F	24	0.057	3.87	1.45	5.76
TLR-260-1NJ-22N	EN 2714-013-A 004F	22	0.063	5.05	1.60	7.51
TLR-260-1NJ-20N	EN 2714-013-A 006F	20	0.072	7.24	1.84	10.77
TLR-260-1NJ-18N	EN 2714-013-A 010F	18	0.082	10.06	2.08	14.97
TLR-260-1NJ-16N	EN 2714-013-A 012F	16	0.096	14.09	2.43	20.97
TLR-260-1NJ-14N	EN 2714-013-A 020F	14	0.108	18.17	2.74	27.03
TLR-260-1NJ-12N	EN 2714-013-A 030F	12	0.126	26.68	3.20	39.70
TLR-260-1NJ-10N	EN 2714-013-A 051F	10	0.153	41.63	3.89	61.94

### 2 Conductor - EN2714-013 ML B



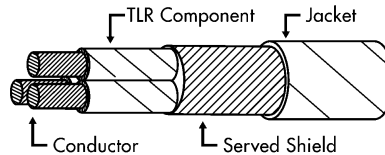
TLR-260-2NJ-26NA	EN 2714-013-B 001F	26	0.084	5.49	2.13	8.17
TLR-260-2NJ-24NA	EN 2714-013-B 002F	24	0.094	6.88	2.40	10.23
TLR-260-2NJ-22N	EN 2714-013-B 004F	22	0.106	9.17	2.70	13.64
TLR-260-2NJ-20N	EN 2714-013-B 006F	20	0.127	14.15	3.22	21.05
TLR-260-2NJ-18N	EN 2714-013-B 010F	18	0.146	19.84	3.71	29.52
TLR-260-2NJ-16N	EN 2714-013-B 012F	16	0.172	27.69	4.38	41.20
TLR-260-2NJ-14N	EN 2714-013-B 020F	14	0.198	37.52	5.04	55.83
TLR-260-2NJ-12N	EN 2714-013-B 030F	12	0.240	58.33	6.09	86.79
TLR-260-2NJ-10N	EN 2714-013-B 051F	10	0.291	87.71	7.39	130.51

# TLR Metric

## SHIELDED AND JACKETED - EN2714-013 (ML) & -014 (MM)

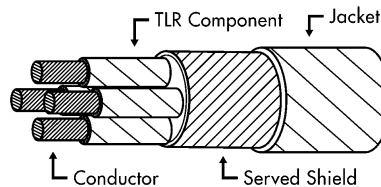
Tensolite Part Number	EN Reference	AWG	Diameter (inches)	Weight (lbs/1000ft)	Diameter (MM)	Weight (kg/km)
			Max	Max	Max	Max

### 3 Conductor - EN2714-013 ML C



TLR-260-3NJ-26NA	EN 2714-013-C 001F	26	0.089	7.35	2.26	10.94
TLR-260-3NJ-24NA	EN 2714-013-C 002F	24	0.102	9.89	2.59	14.72
TLR-260-3NJ-22N	EN 2714-013-C 004F	22	0.115	13.28	2.91	19.76
TLR-260-3NJ-20N	EN 2714-013-C 006F	20	0.137	20.46	3.48	30.44
TLR-260-3NJ-18N	EN 2714-013-C 010F	18	0.157	28.87	4.00	42.96
TLR-260-3NJ-16N	EN 2714-013-C 012F	16	0.186	40.77	4.73	60.67
TLR-260-3NJ-14N	EN 2714-013-C 020F	14	0.212	52.98	5.39	78.83
TLR-260-3NJ-12N	EN 2714-013-C 030F	12	0.256	82.47	6.50	122.72
TLR-260-3NJ-10N	EN 2714-013-C 051F	10	0.311	125.46	7.90	186.69

### 4 Conductor - EN2714-013 ML D



TLR-260-4NJ-26NA	EN 2714-013-D 001F	26	0.099	9.79	2.51	14.57
TLR-260-4NJ-24NA	EN 2714-013-D 002F	24	0.112	12.41	2.84	18.47
TLR-260-4NJ-22N	EN 2714-013-D 004F	22	0.126	16.83	3.19	25.04
TLR-260-4NJ-20N	EN 2714-013-D 006F	20	0.150	26.08	3.82	38.81
TLR-260-4NJ-18N	EN 2714-013-D 010F	18	0.174	37.11	4.41	55.22
TLR-260-4NJ-16N	EN 2714-013-D 012F	16	0.206	52.43	5.23	78.02
TLR-260-4NJ-14N	EN 2714-013-D 020F	14	0.239	72.15	6.06	107.36

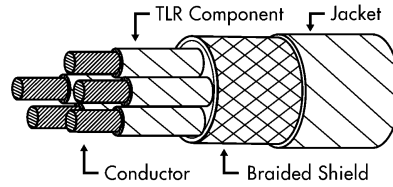


# TLR Metric

## SHIELDED AND JACKETED

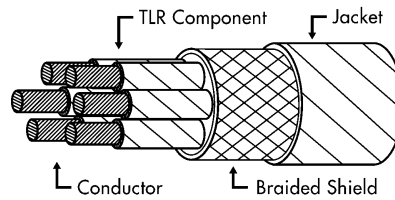
Tensolite Part Number	EN Reference	AWG	Diameter (inches)	Weight (lbs/1000ft)	Diameter (MM)	Weight (kg/km)
			Max	Max	Max	Max

### 5 Conductor - EN2714-014 MM E



TLR-260-4NJ-18N	EN 2714-014-E 010F	18	0.207	51.08	5.26	76.00
TLR-260-4NJ-16N	EN 2714-014-E 012F	16	0.240	68.68	6.10	102.20
TLR-260-4NJ-14N	EN 2714-014-E 020F	14	0.278	90.73	7.05	135.00
TLR-260-4NJ-12N	EN 2714-014-E 030F	12	0.331	138.17	8.41	205.60

### 7 Conductor - EN2714-014 ML G



TLR-260-7NJ-24NA	EN 2714-014-G 002F	24	0.150	23.25	3.80	34.60
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# AS22759/80-92 REV.A

(REPLACES MIL-DTL-81381 & AS22759/32-46)

## ST SINGLE CONDUCTOR - MEDIUM WALL

AWG	/86 SCC 200°C	/87 NCC 260°C	/88 TCC 150°C	/89 SCCA 200°C	/90 NCCA 260°C	Diameter (inches)		Weight (lbs/1000ft)	Diameter (MM)		Weight (kg/km)
						Min	Max	Max	Min	Max	Max
26	•	•		•	•	0.033	0.037	1.55	0.84	0.94	2.31
24	•	•		•	•	0.038	0.042	2.20	0.97	1.07	3.27
22	•	•	•	•	•	0.043	0.047	3.00	1.09	1.19	4.46
20	•	•	•	•	•	0.051	0.055	4.55	1.30	1.40	6.77
18	•	•	•			0.061	0.065	6.70	1.55	1.65	9.97
16	•	•	•			0.068	0.073	8.60	1.73	1.85	12.80
14	•	•	•			0.081	0.086	12.95	2.06	2.18	19.27
12	•	•	•			0.100	0.105	20.10	2.54	2.67	29.91
10	•	•	•			0.122	0.127	31.40	3.10	3.23	46.72
8	•	•	•			0.180	0.188	57.60	4.57	4.78	85.71
6	•	•	•			0.219	0.229	88.30	5.56	5.82	131.4
4	•	•	•			0.276	0.288	143.0	7.01	7.32	212.8
2	•	•	•			0.344	0.364	223.0	8.74	9.25	331.8
1	•	•	•			0.388	0.408	289.0	9.86	10.36	430.0
0	•	•	•			0.420	0.450	345.0	10.67	11.43	513.4
00	•	•	•			0.475	0.505	432.0	12.07	12.83	642.8
000	•	•	•			0.530	0.560	542.0	13.46	14.22	806.5
0000	•	•	•			0.590	0.630	681.0	14.99	16.00	1013

## ST SINGLE CONDUCTOR - MEDIUM WALL WITH BRAID

AWG	/80 TCC 150°C	/81 SCCA 200°C	/82 NCCA 260°C	/91 SCC 200°C	/92 NCC 260°C	Diameter (inches)		Weight (lbs/1000ft)	Diameter (MM)		Weight (kg/km)
						Min	Max	Max	Min	Max	Max
2	•	•	•			0.360	0.380	227.0	9.14	9.65	337.8
1	•	•	•			0.400	0.420	295.0	10.16	10.67	439.0
0	•	•	•			0.442	0.462	351.0	11.23	11.73	522.3
00	•	•	•			0.498	0.528	432.0	12.65	13.41	642.8
000	•	•	•			0.554	0.584	542.0	14.07	14.83	806.5
0000•	•	•		0.615		0.655	0.689.0	15.62	16.64	1025	

## SLT SINGLE CONDUCTOR - THIN WALL

AWG	/80 TCC 150°C	/81 SCCA 200°C	/82 NCCA 260°C	/91 SCC 200°C	/92 NCC 260°C	Diameter (inches)		Weight (lbs/1000ft)	Diameter (MM)		Weight (kg/km)
						Min	Max	Max	Min	Max	Max
26		•	•	•	•	0.030	0.034	1.43	0.76	0.86	2.13
24		•	•	•	•	0.034	0.038	1.93	0.86	0.97	2.87
22	•	•	•	•	•	0.040	0.043	2.85	1.02	1.09	4.24
20	•	•	•	•	•	0.048	0.051	4.38	1.22	1.30	6.52
18	•	•	•			0.056	0.060	6.60	1.42	1.52	9.82
16	•	•	•			0.063	0.067	8.30	1.60	1.70	12.35
14	•	•	•			0.076	0.080	12.60	1.93	2.03	18.75
12	•	•	•			0.096	0.100	19.60	2.44	2.54	29.16
10	•	•	•			0.119	0.123	30.60	3.02	3.12	45.53

## Temperature Requirements

Determines Conductor Selection

### 150°C

TCC — Tin Coated Copper

### 200°C

SCC—Silver-Coated Copper  
SCCA—Silver Coated Copper Alloy

### 260°C

NCC—Nickel-Coated Copper  
NCCA—Nickel Coated Copper Alloy



# WC27500 Primary Wire Codes

## SPECIFICATIONS

## M27500 SYMBOL

AS22759/80

WB

AS22759/81

WC

AS22759/82

WE

AS22759/83

WF

AS22759/84

WG

AS22759/85

WH

AS22759/86

WJ

AS22759/87

WK

AS22759/88

WL

AS22759/89

WM

AS22759/90

WN

AS22759/91

WP

AS22759/92

WR



# TUFFLITE® Approvals

**BOEING • BMS 13-60**

**BOEING (DOUGLAS) • DMS 2426**

**AS22759/80-92**

**BELL HELICOPTER • 30 & 140 SERIES**

**LOCKHEED MARTIN • 5PTM SERIES**

**AGUSTA • EE 194-199**

**ASD • EN 2267-010**

# TUFFLITE® Replaces

**BMS • 13-31, 13-48, 13-51**

**BXS • 7007, 7008**

**AS22759/5-18**

**AS22759/11-112**

**AS22759/16-119**

**AS22759/22-123**

**AS22759/32-146**

**MIL-DTL-81381**



# MIL-DTL-17 Coaxial Cables



A Tensolite coaxial cable is a transmission line in which one conductor is centered inside and insulated from an outer flexible metal braid that serves as the second outer conductor.

The basic dielectric material for coaxial cables supplied by Tensolite is PTFE because of its electrical and mechanical performance. Some attractive properties of PTFE are extremely low loss, high dielectric strength, no measurable water absorption, and electrical efficiency at both high and low temperatures.

Common Conductors*	Shield Wires:	Jacket
Solid or Stranded	Silver Coated Copper	FEP
Silver Coated Copper Covered Steel		PFA
Silver Coated Copper		
Silver Coated Copper Alloy		

\*Other conductor materials may be used to give maximum strength, flexibility and conductivity properties to completed cable.

Description (Tensolite Part Number)	Conductor		Swept Version	Impedance
	AWG	Construction	Yes/No	
M17/60-RG142	18	Solid	yes	50 ohms
M17/86-00001	12	Stranded	no	50 ohms
M17/93-RG178	30	Stranded	yes	50 ohms
M17/94-RG179	30	Stranded	no	75 ohms
M17/95-RG180	30	Stranded	no	95 ohms
M17/110-RG302	22	Solid	no	75 ohms
M17/111-RG303	18	Solid	yes	50 ohms
M17/113-RG316	25	Stranded	yes	50 ohms
M17/127-RG393	12	Stranded	yes	50 ohms
M17/128-RG400	20	Stranded	yes	50 ohms
M17/136-00001	30	Stranded	no	75 ohms
M17/137-00001	30	Stranded	no	95 ohms
M17/152-00001	25	Stranded	yes	50 ohms
M17/158-00001	18	Solid	no	50 ohms
M17/169-00001	30	Stranded	no	50 ohms
M17/170-00001	18	Solid	no	50 ohms
M17/172-00001	25	Stranded	no	50 ohms
M17/174-00001	12	Stranded	no	50 ohms
M17/175-00001	20	Stranded	no	50 ohms
M17/176-00002	24	Stranded	no	77 ohms balanced line

# MIL Spec Approval Summary

## NEMA HP-3(PTFE) and HP-4(FEP) (Formerly MIL-W-16878)

This specification covers unshielded wire for hook-up and lead wiring for electrical and electronic components and equipment. The following table is a partial list of the more popular constructions. Further details on all the constructions in this specification can be found in Tensolite's Product and Technical Handbook.

Traditional Call Out	Voltage Rating	Temperature Rating (°C)	Insulation	AWG	Nominal Wall Thickness (in.)
Type E	600	200	PTFE	32-10	0.010
Type EE	1000	200	PTFE	32-10	0.015
Type ET	250	200	PTFE	32-20	0.006
Type K	600	200	FEP	32-8	0.010
Type KK	1000	200	FEP	32-4/0	0.015
Type KT	250	200	FEP	32-20	0.016

## AS22759

This specification covers fluoropolymer-insulated single conductor electrical wires. These wires are suitable for installation on aerospace electrical systems within the limitations of applicable performance requirements. Further details can be found in Tensolite's Product and Technical Handbook or in AS22759 specifications.

Type	Voltage Rating	Temperature Rating (°C)	Insulation	AWG	Nominal Wall Thickness (in.)
22759/1	600	200	PTFE/Glass	22-4/0	0.025 - 0.055
22759/2	600	260	PTFE/Glass	22-2/0	0.025 - 0.055
22759/3	600	260	PTFE/Glass	22-2/0	0.020 - 0.055
22759/4	600	200	PTFE/Glass/FEP	22-2/0	0.021 - 0.055
22759/5	600	200	Mineral Filled PTFE	24-10	0.025 - 0.044
22759/6	600	260	Mineral Filled PTFE	24-10	0.025 - 0.044
22759/7	600	200	Mineral Filled PTFE	24-10	0.014 - 0.036
22759/8	600	260	Mineral Filled PTFE	24-10	0.014 - 0.036
22759/9	1000	200	PTFE	28-10	0.014 - 0.023
22759/10	1000	260	PTFE	28-10	0.014 - 0.023
22759/11	600	200	PTFE	28-10	0.009 - 0.021
22759/12	600	260	PTFE	28-10	0.009 - 0.021
22759/20	1000	200	PTFE	28-20	0.014
22759/21	1000	260	PTFE	28-20	0.014
22759/22	600	200	PTFE	28-30	0.009
22759/23	600	260	PTFE	28-30	0.009
22759/28	600	200	PTFE/Polyimide Top coat	28-16	0.009 - 0.012
22759/29	600	260	PTFE/Polyimide Top coat	28-16	0.009 - 0.012
22759/30	600	200	PTFE/Polyimide Top coat	28-20	0.010
22759/31	600	260	PTFE/Polyimide Top coat	28-20	0.010
22759/80	600	150	PTFE/Polyimide	26-10	0.006
22759/81	600	200	PTFE/Polyimide	26-20	0.006
22759/82	600	260	PTFE/Polyimide	26-20	0.006
22759/83	600	200	PTFE/Polyimide /NOMEX	2-4/0	0.017
22759/84	600	260	PTFE/Polyimide /NOMEX	2-4/0	0.017
22759/85	600	150	PTFE/Polyimide /NOMEX	2-4/0	0.017
22759/86	600	200	PTFE/Polyimide	26-4/0	0.008 - 0.017
22759/87	600	260	PTFE/Polyimide	26-4/0	0.008 - 0.017
22759/88	600	150	PTFE/Polyimide	26-4/0	0.008 - 0.017
22759/89	600	200	PTFE/Polyimide	26-20	0.008
22759/90	600	200	PTFE/Polyimide	26-20	0.008
22759/91	600	200	PTFE/Polyimide	26-10	0.006
22759/92	600	260	PTFE/Polyimide	26-10	0.006

## MIL-DTL-81381

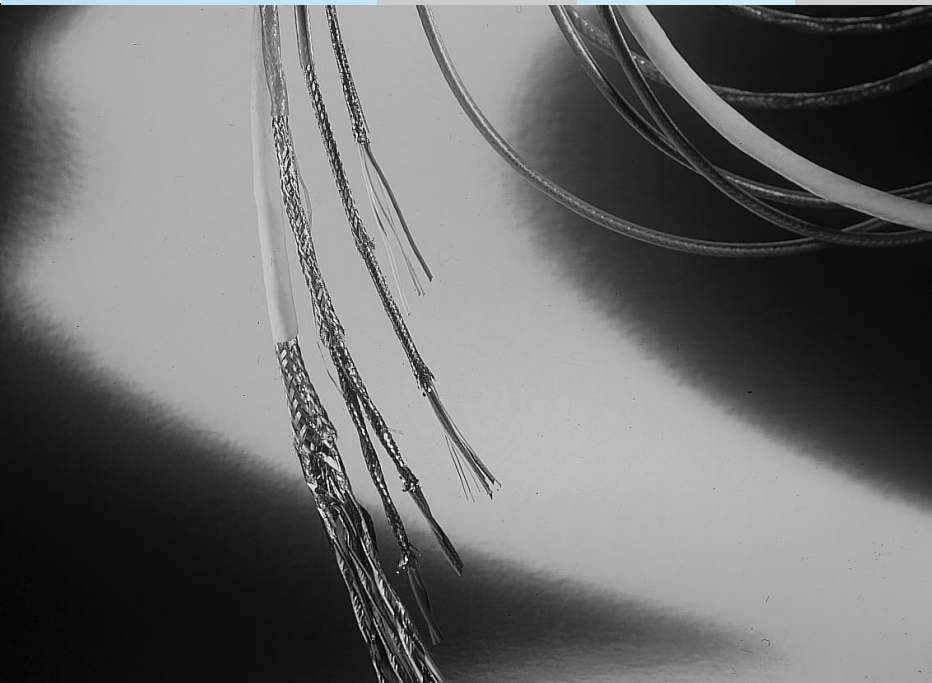
This specification covers polyimide-insulated single conductor electrical wires. These wires are suitable for installation on aerospace electrical systems within the limitations of applicable performance requirements. Further details can be found in Tensolite's Product and Technical Handbook or in MIL-DTL-81381 specifications.

Type	Voltage Rating	Temperature Rating (°C)	Insulation	AWG	Nominal Wall Thickness (in.)
81381/7	600	200	Polyimide/FEP	26-10	0.006
81381/8	600	200	Polyimide/FEP	26-10	0.006
81381/9	600	200	Polyimide/FEP	30-20	0.006
81381/10	600	200	Polyimide/FEP	30-20	0.006
81381/11	600	200	Polyimide/FEP	24-2	0.008 - 0.015
81381/12	600	200	Polyimide/FEP	24-2	0.008 - 0.015
81381/13	600	200	Polyimide/FEP	28-20	0.008
81381/14	600	200	Polyimide/FEP	28-20	0.008
81381/17	600	200	Polyimide/FEP	26-12	0.005
81381/18	600	200	Polyimide/FEP	26-12	0.005
81381/19	600	200	Polyimide/FEP	30-20	0.005
81381/20	600	200	Polyimide/FEP	30-20	0.005
81381/21	600	150	Polyimide/FEP	24-10	0.006
81381/22	600	150	Polyimide/FEP	24-2/0	0.008 - 0.015

## MIL-W-81822

This specification covers insulated solid conductor wires designed for solderless wrap connections (wire-wrap) in electrical and electronic devices and equipment. Further details can be found in the MIL-W-81822 specification.

Type	Voltage Rating	Temperature Rating (°C)	Insulation	AWG	Nominal Wall Thickness (in.)
81822/4	300	200	PTFE/Polyimide topcoat	30-18	0.005 - 0.007
81822/5	300	200	PTFE/Polyimide tape	30-18	0.005 - 0.007
81822/6	300	200	PTFE	30-18	0.006 - 0.012



# WC27500 MIL Spec Summary

## Part Numbering Guide

Specification Number	Color Code Designator	Gauge of Wire	Basic Wire Spec	Number of Wires	Shield Style	Jacket Style
<b>WC27500</b>	<b>-</b>	<b>22</b>	<b>TA</b>	<b>2</b>	<b>N</b>	<b>24</b>
formerly M27500			M22759/8		Nickel-Coated Copper	Polymide/PTFE

## Basic Wire Symbol & Specification

Symbol	Specification	Symbol	Specification	Symbol	Specification
E	AS22759/2	NB	Mil-DTL-81381/14	TN	AS22759/23
EA	AS22759/1	NE	Mil-DTL-81381/17	VA	AS22759/5
JB	AS22759/28	NF	Mil-DTL-81381/18	WA	AS22759/6
JC	AS22759/29	NG	Mil-DTL-81381/19	WB	AS22759/80
JD	AS22759/30	NH	Mil-DTL-81381/20	WC	AS22759/81
JE	AS22759/31	NK	Mil-DTL-81381/21	WE	AS22759/82
JF	AS22759/3	NL	Mil-DTL-81381/22	WF	AS22759/83
LE	AS22759/9	RA	AS22759/3	WG	AS22759/84
LH	AS22759/10	RB	AS22759/4	WH	AS22759/85
MR	Mil-DTL-81381/7	RC	AS22759/11	WJ	AS22759/86
MS	Mil-DTL-81381/8	RE	AS22759/12	WK	AS22759/87
MT	Mil-DTL-81381/9	SA	AS22759/7	WL	ASW-22759/88
MV	Mil-DTL-81381/10	TA	AS22759/8	WM	AS22759/89
MW	Mil-DTL-81381/11	TK	AS22759/20	WN	AS22759/90
MY	Mil-DTL-81381/12	TL	MAS22759/21	WP	AS22759/91
NA	Mil-DTL-81381/13	TM	AS22759/22	WR	AS-22759/92

## Color Code Designations

Designation	1 cond	2 cond	3 cond	4 cond	5 cond	6 cond	Shield Coverage
-	9	9,96	9, 96, 93	9, 96, 93, 95	9, 96, 93, 95, 92	9, 96, 93, 95, 92, 90	85%
A		9,6	9, 6, 3	9, 6, 3, 5	9, 6, 3, 5, 2	9, 6, 3, 5, 2, 0	85%
B	Solid color; color denotes wire size (ref Table III C, per spec), Identify wire by banding marks (ref Table III D, per spec)						85%
F		92, 96	92, 96, 94	92, 96, 94, 95	92, 96, 94, 95, 9	92, 96, 94, 95, 9, 90	85%
G		2, 6	2, 6, 4	2, 6, 4, 5	2, 6, 4, 5, 9	2, 6, 4, 5, 9, 0	85%

Common color codes. Reference WC27500 for complete color code listings.



## Shield Symbol Guide

Symbol	Double Shield	Shield style
U		No Shield
T	V	Tin Coated Copper, round
S	W	Silver Coated Copper, round
N	Y	Nickel Coated Copper, round
F	Z	Stainless Steel, round
C	R	27% Nickel Coated Copper, round
M	K	Silver Coated High Strength Copper Alloy, round
P	L	Nickel Coated High Strength Copper Alloy, round
G	A	Silver Coated Copper, flat
H	B	Silver Coated High Strength Copper Alloy, flat
*	#	Nickel Coated Copper, flat
J	D	Tin Coated Copper, flat
E	X	Nickel Coated High Strength Copper Alloy, flat

## Jacket Symbol Guide

Single Jacket	Double Jacket	Jacket style
00	00	No Jacket
05	55	Extruded Clear FEP
06	56	Extruded or Tape PTFE
07	57	White PTFE Impregnated Glass over PTFE Tape
09	59	Extruded White FEP
11	61	Polymide/FEP Tape with FEP outer surface
12	62	Polymide/FEP Tape - Polymide Surface exposed Sintered TFE Barrier Tape
14	64	Extruded White ETFE
15	65	Extruded Clear ETFE
16	66	Braid of Aromatic Polyamide with high temperature finish over PTFE Tape
20	70	Extruded White PFA
21	71	Extruded Clear PFA
22	72	Polyimide/FEP Tape with opaque polyimide outer surface
24	74	Tape layer of PTFE wrapped over a tape layer of natural Polyimide/FEP

# RF/Microwave Coaxial Cables

## Low Loss Flexible (LLF) Series

### Features and Benefits

**Excellent for use in the broadest range of operating frequency**

**Both extruded and tape wrapped expanded dielectric as well as solid PTFE**

Greater cost efficiency. Any needed Velocity of Propagation from 69% to 83% can be created for your specific application and requirement.

**Excellent flex attenuation stability**

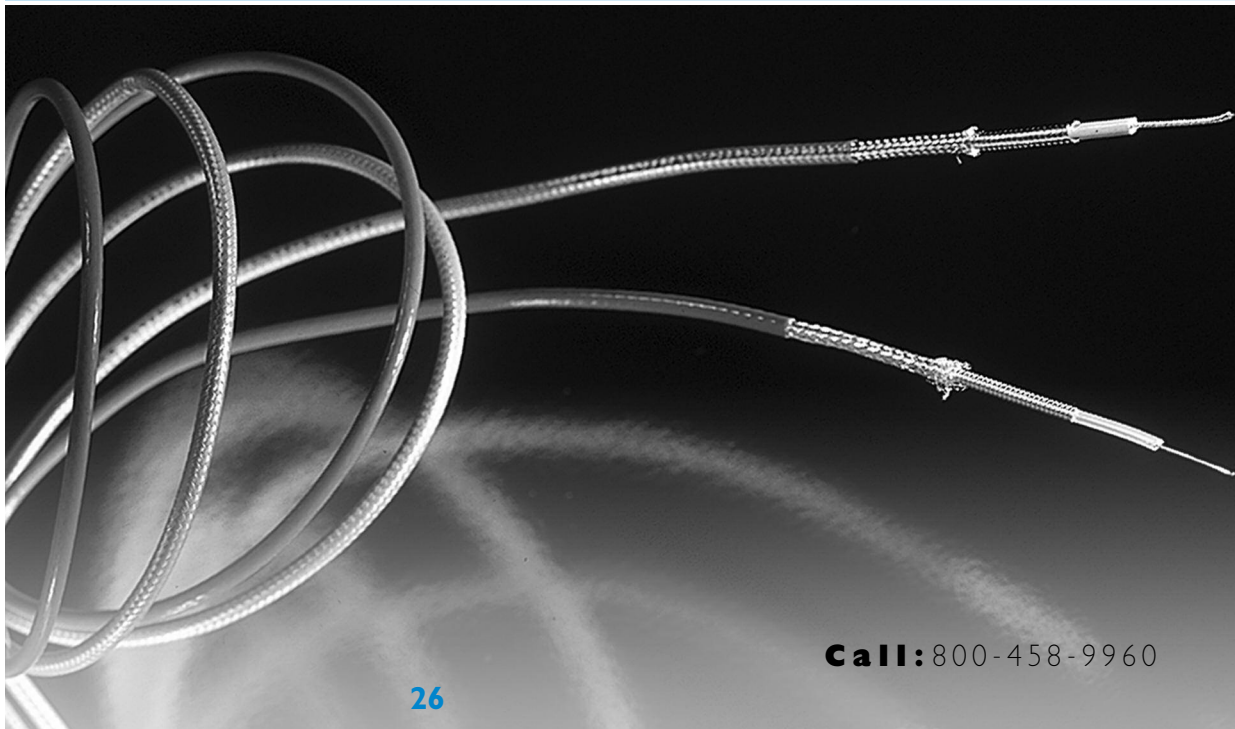
Provides optimal signal integrity over the broadest range of flexibility and bend radius with minimal shifts in the cables electrical characteristics.

**Excellent phase to temperature stability**

Provides optimal signal integrity over the broadest range of temperature changes.

**Velocity range of 69 percent to 83 percent**

The widest range of Velocity of Propagation choices that meet or exceed the performance ratings of MIL-C-17 and RG coax cables while providing the smallest outer diameter possible.



## Low Loss Flexible (LLF) Series

### Features and Benefits

Greater than 90 dB/ft shielding effectiveness

VSWR less than 1.15:1 to 5GHz and 1.20:1 from 5 to 18GHz, and 1.30:1 from 18 to 26 GHz and 1.50:1 from 26 to 40 GHz

Excellent attenuation with flex stability

Superior phase with flex performance

Excellent vibration performance



### Part Numbering Guide

Frequency	Jacket	Construction	Cable Size (over shield)	Velocity of Propagation	Stranding	Impedance	Impedance Tolerance
<b>LLF</b>	<b>Q -</b>	<b>I</b>	<b>000</b>	<b>A</b>	<b>S -</b>	<b>75 /</b>	<b>2</b>
LLF = 18 GHz MFF = 26 GHz HFF = 40 GHz	- = FEP P = Polyurethane Q = PFA	1 = Helical/Round 2 = Flat/Round 3 = Round/Round 4 = Flat/Foil/Round		- = 69% (nom) A = 77% (nom) B = 82% (nom)	- = Solid S = Stranded	- = 50 ohms 75 = 75 ohms	- = +/- 2 ohms (50) - = +/- 3 ohms (75) 2 = +/- 2 ohms (75) 1 = +/- 1 ohms .5 = +/- .5 ohms .25 = +/- .25 ohms

# Microwave Cables

## Flexible (LLF) Series

Part Number Cable Code	LLF-1087 461	LLF-1141 463	LLF-1250 465	LLF-1087-75 837	LLFP-1087S 561	LLFP-1141S 563	LLFP-1250S 565	HFF-1087 794
<b>Mechanical Traits</b>								
Conductor Construction	Solid SCCS	Solid SCCS	Solid SC	Solid SCCS	Stranded SC	Stranded SC	Stranded SC	Solid SCCS
Conductor Diameter	0.020"	0.037"	0.064"	0.011"	0.021"	0.038"	0.068"	0.020"
Dielectric Material	PTFE	PTFE	PTFE	PTFE	PTFE	PTFE	PTFE	PTFE
Dielectric Diameter	0.064"	0.118"	0.211"	0.065"	0.063"	0.116"	0.211"	0.064"
Shield Type(s)					SC Strip + SC Braid			
Shield Diameter	0.086"	0.142"	0.248"	0.087"	0.086"	0.140"	0.252"	0.086"
Jacket Material	FEP	FEP		FEP	Polyurethane	Polyurethane	Polyurethane	FEP
Jacket Diameter	0.105"	0.163"	0.275"	0.105"	0.115"	0.185"	0.290"	0.105"
Weight (lb/ft)	0.013	0.030	0.090	0.013	0.013	0.029	0.085	0.013
Min Bend Radius (in)	0.5	0.8	1.4	0.5	0.6	0.9	1.5	0.5
<b>Electrical Traits</b>								
Impedance (ohms)	50	50	50	75	50	50	50	50
Capacitance (pF/ ft)	29	29	29	20	29	29	29	29
Velocity of Propagation (%)	70	70	70	70	70	70	70	70
Max Operating Voltage (Vms)	1,500	1,900	3,000	900	1,500	1,900	3,000	1,500
Max Operating Frequency (GHz)	18	18	18	3	18	18	4	40
Shielding Effectiveness (dB/ft)	90	90	90	90	90	90	90	90
Attenuation (dB/100')								
@ 0.4 GHz	13.7	7.2	4.2	13.7	14.6	7.7	4.2	13.7
@ 1.0 GHz	22.2	11.6	7.2	22.2	23.4	12.6	7.6	22.2
@ 3.0 GHz	38.9	21.2	13.9	38.9	41.6	22.6	15.2	38.9
@ 5.0 GHz	51.0	28.3	18.9		54.6	30.5		51.0
@ 10.0 GHz	74.9	43.0	29.6		79.6	45.8		74.9
@ 18.0 GHz	104.3	61.5	44.3		110.6	65.3		104.3
@ 26.5 GHz								128.7
@ 40.0 GHz								176.5

# Microwave Cables

## Low Loss Flexible (LLF) Series

Part Number Cable Code	MFF-4063A	LLFQ-1078A	LLFQ-1082AS	LLF-1111A	LLF-1120AS	LLF-1108B	MFF-1130A	LLF-1170B	LLFQ-1282B
<b>Mechanical Traits</b>									
Conductor Construction	Solid SC	Solid SC	Stranded SC	Solid SC	Solid SC	Solid SC	Stranded SC	Solid SC	Solid SC
Conductor Diameter	0.0134"	0.020"	0.024"	0.0298"	0.032"	0.030"	0.0359"	0.054"	0.0870"
Dielectric Material	PTFE	PTFE	PTFE	PTFE	PTFE	PTFE	PTFE	PTFE	PTFE
Dielectric Diameter	0.040"	0.061"	0.066"	0.087"	0.092"	0.083"	0.108"	0.145"	0.244"
Shield Diameter	0.047"	0.078"	0.082"	0.093"	0.097"	0.108"	0.132"	0.170"	0.256"
Jacket Material	FEP	PFA	PFA	FEP	FEP	FEP	FEP	FEP	PFA
Jacket Diameter	0.080"	0.095"	0.097"	0.125"	0.132"	0.120"	0.150"	0.190"	0.306"
Weight (lb/ft)	0.0069	0.010	0.010	0.0213	0.0201	0.016	0.0302	0.038	0.0869
Min Bend Radius (in)	0.4"	0.5"	0.5"	0.625"	0.66"	0.6"	1.5"	0.9"	3.05"
<b>Electrical Traits</b>									
Impedance (ohms)	50	50	50	50	50	50	50	50	50
Capacitance (pF/ ft)	29	27	27	27	27	25	27	25	25
Velocity of Propagation (%)	76	77	77	77	77	82	77	82	82
Max Operating Voltage (Vms)	600	800	800	800	800	800	800	1,000	1,200
Max Operating Frequency (GHz)	26.5	18	18	18	18	18	26.5	18	18
Shielding Effectiveness (dB/ft)	90	90	90	90	90	90	90	90	90
Attenuation (dB/100')									
@ 0.4 GHz	21.7	12.4	13.5	8.0	8.5	8.5	6.3	3.2	2.6
@ 1.0 GHz	33.2	19.5	19.7	12.7	13.7	13.7	10.1	5.9	5.0
@ 3.0 GHz	59.4	34.5	36.7	23.7	24.7	23.8	21.3	9.8	7.2
@ 5.0 GHz	77.4	45.1	47.6	31.9	32.6	30.9	27.8	15.1	13.9
@ 10.0 GHz	112.8	76.3	62.3	47.5	48.2	43.6	34.5	22.4	17.0
@ 18.0 GHz	156.8	104.7	87.5	67.4	68.2	58.6	46.4	29.3	23.5



### Applications

- Fibre Channel
- Ethernet 10/100/1000 BaseT
- Arinc 628, 629 & 664
- LVDS
- USB
- IEEE 1394
- CEPT-EI
- CAN BUS
- Digital Video Interface (DVI)
- Serial ATA

### High speed transmission

The use of extruded, expanded PTFE as the dielectric provides the best time delay performance and the lowest loss. The result is lower attenuation and a larger bandwidth.

### Flight proven design

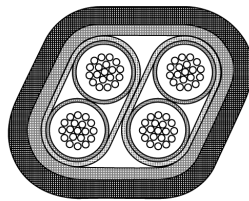
Tensolite data bus cables have provided flight critical data transmission for Boeing's 777 fly-by-wire since 1994.

### Low smoke and flame generation

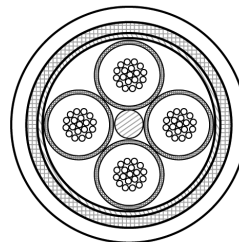
Best balance of properties in material selection leads to very low smoke generation and superior resistance to flammability. Exceeds Requirements of FAR 25.869.

### Custom designs available

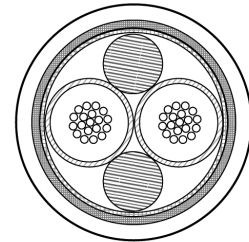
Tensolite produces a variety of configurations from simple twisted, shielded pairs, full duplex and quad cables to complex multi-conductor designs.



Individual  
(Duplex)



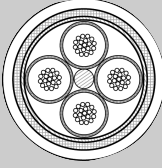
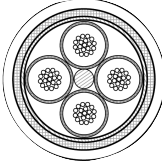
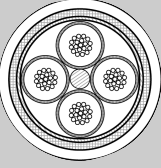
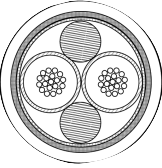
Quad  
(Duplex)



Twisted Pair  
(Simplex)

# NETflight™ Fibre Channel

## Lightweight Aerospace Grade Copper Fibre Channel Cables

				
	26473/02006X-4 (LD)	24483/02006X-4 (LD)	22480/02006X-4 (LD)	26483/03071X-2 (LD)*
Conductor AWG Size (19 Strand)	26	24	22	26
Conductor Material	SCCA	SCCA	SCC	SCCA
Nom Conductor Diameter (in)	0.0189	0.0233	0.0295	.0190
Insulation Material	PTFE	PTFE	PTFE	PTFE
Nom Insulation Diameter (in)	0.056	0.074	0.089	0.070
Pair #1	White/Green, White/Black	White/Red, White/Black	White/Red, White/Black	White, White/Black
Pair #2	White, White/Blue	White/Green, White/Blue	White/Green, White/Blue	NA
Nom Cable Diameter (in)	0.195	0.242	0.283	0.195
Nom Cable Weight (lbs/1000 ft)	28.0	40.0	51.0	27.0
Impedance ± 10 (Ω)	150	150	150	150
Nom Capacitance (pF/ft)	9	9	9	9
Nom Velocity of Propagation	80%	80%	80%	80%
Typical Delay Skew (ps/ft)	5	3	2	5
Nom. Attenuation (dB/100 ft)				
@ 531 MHz	13	11	9	12
@ 1062 MHz	21	17	13	19



\* Flat / Flat Round SCC Shields

Shielding consists of inner aluminum/polyester tape and outer TCC round braid. The jackets are extruded FEP.

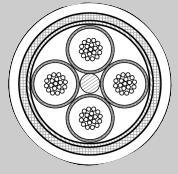
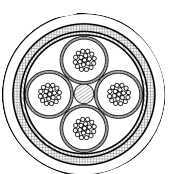
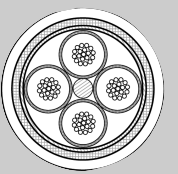
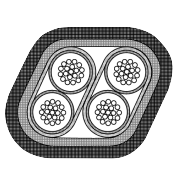
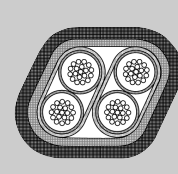
Flammability meets or exceeds FAR25.869 requirements.

**SCC - Silver-Coated Copper**

**SCCA - Silver-Coated Copper Alloy**

# NETflight™ Ethernet

## Aerospace Grade 100BASE-T Ethernet Cables

					
	<b>NF26Q100-01</b>	<b>NF24Q100-01</b>	<b>NF22Q100-01</b>	<b>NF24PI00</b>	<b>NF22PI00</b>
<b>Conductor AWG Size (19 Strand)</b>	26	24	22	24	22
<b>Conductor Material</b>	SCCA	SCCA	SCC	SCCA	SCC
<b>Nom Conductor Diameter (in)</b>	0.0189	0.0233	0.0295	0.0233	0.0295
<b>Insulation Material</b>	PTFE	PTFE	PTFE	PTFE	PTFE
<b>Nom Insulation Diameter (in)</b>	0.038	0.045	0.055	0.063	0.070
<b>Pair #1</b>	Red, Blue	Red, Blue	Red, Blue	Red, Red/Black	Red, Red/Black
<b>Pair #2</b>	Yellow, Green	Yellow, Green	Yellow, Green	Blue, Blue/Black	Blue, Blue/Black
<b>Nom Cable Diameter (in)</b>	0.137	0.163	0.190	0.175 × 0.270	0.195 × 0.290
<b>Nom Cable Weight (lbs/1000 ft)</b>	18.0	24.5	34.5	35.0	43.0
<b>Impedance ± 10%(Ω)</b>	100	100	100	100	100
<b>Nom Capacitance (pF/ft)</b>	13	13	13	13	13
<b>Nom Velocity of Propagation</b>	80%	80%	80%	80%	80%
<b>Nom/Max Attenuation (dB/100 ft)</b>	<b>10 MHz</b> 2.5/3.2 <b>100MHz</b> 9.3/11.0	<b>10 MHz</b> 2.3/2.7 <b>100MHz</b> 8.0/9.2	<b>10 MHz</b> 1.8/2.2 <b>100MHz</b> 6.4/7.3	<b>10 MHz</b> 1.8/2.1 <b>100MHz</b> 6.0/7.1	<b>10 MHz</b> 1.6/2.0 <b>100MHz</b> 5.6/6.7
<b>Min NEXT (dB)</b>	50    35	50    35	50    35	53    38	53    38
<b>Min SRL(dB)</b>	23    16	23    16	23    16	23    16	23    16
<b>Cable Budget Length to meet CAT5e Requirements</b>	200 ft (61m)	240 ft (73m)	300 ft (91m)	310 ft (94m)	330 ft (100m)

Shielding consists of inner TCC flat braid and outer TCC round braid. The jackets are extruded FEP. The cables are rated for maximum service of 150° C (200° C rated cables available upon request).

Flammability meets or exceeds FAR25.869 requirements. Smoke and toxicity meet or exceed Boeing and Airbus requirements.

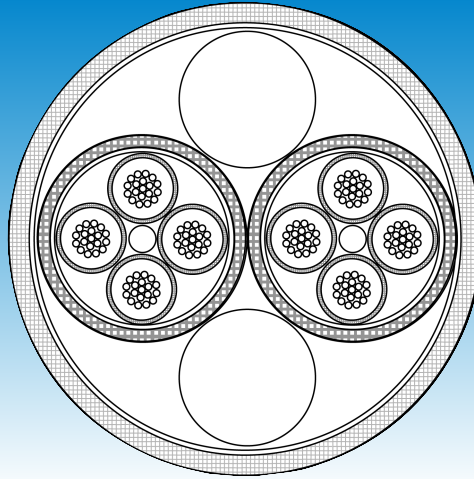
- TCC-Tin-Coated Copper**
- SCC-Silver-Coated Copper**
- SCCA-Silver-Coated Copper Alloy**





# NETflight™ Ethernet

## QUADRAX & RJ-45 Compatible Aerospace Grade 1000BASE-T GIGABIT Ethernet Cables



Part Number	NF26-2Q100			NF24-2Q100		
Conductor AWG Size (19 Strand)	26			24		
Conductor Material	SCCA			SCCA		
Nom Conductor Diameter (in)	0.0190			0.0233		
Insulation Material	PTFE			PTFE		
Nom Insulation Diameter (in)	0.038			0.045		
Color:	<b>Quad #1</b>	<b>Quad #2</b>		<b>Quad #1</b>	<b>Quad #2</b>	
Pair #1	White	Blue		White	Blue	
Pair #2	Red—Blue	Red—Blue		Red—Blue	Red—Blue	
Pair #2	Yellow—Green	Yellow—Green		Yellow—Green	Yellow—Green	
Nom Cable Diameter (in)	0.265			0.305		
Nom Cable Weight (lbs/1000 ft)	45.0			58.0		
Impedance ± 10%(Ω)	100			100		
Nom Capacitance (pF/ft)	13			13		
Nom Velocity of Propagation	80%			80%		
Nom/Max Attenuation (dB/100 ft)	<u>1 MHz</u>	<u>10 MHz</u>	<u>100 MHz</u>	<u>1 MHz</u>	<u>10 MHz</u>	<u>100MHz</u>
Min NEXT (dB)	0.9/1.0	2.5/3.2	9.3/11.0	0.7/0.8	2.3/2.7	8.0/9.2
Min RL(dB)	65.3	50.3	35.3	65.3	50.3	35.3
Min RL(dB)	20.0	25.0	19.0	20.0	25.0	19.0
Cable Budget Length to meet CAT5e Requirements	200 ft (61m)			240 ft (73m)		

Shielding consists of TCC braids. The jackets are extruded FEP. The cables are rated for maximum service of 150°C.

Flammability meets or exceeds FAR25.869 requirements.

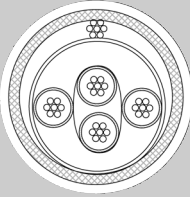
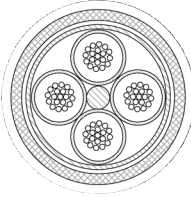
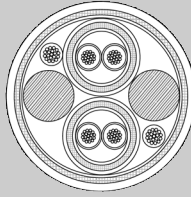
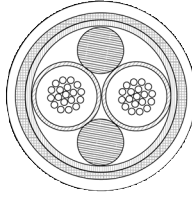
Smoke and toxicity meet or exceed Boeing and Airbus requirements.

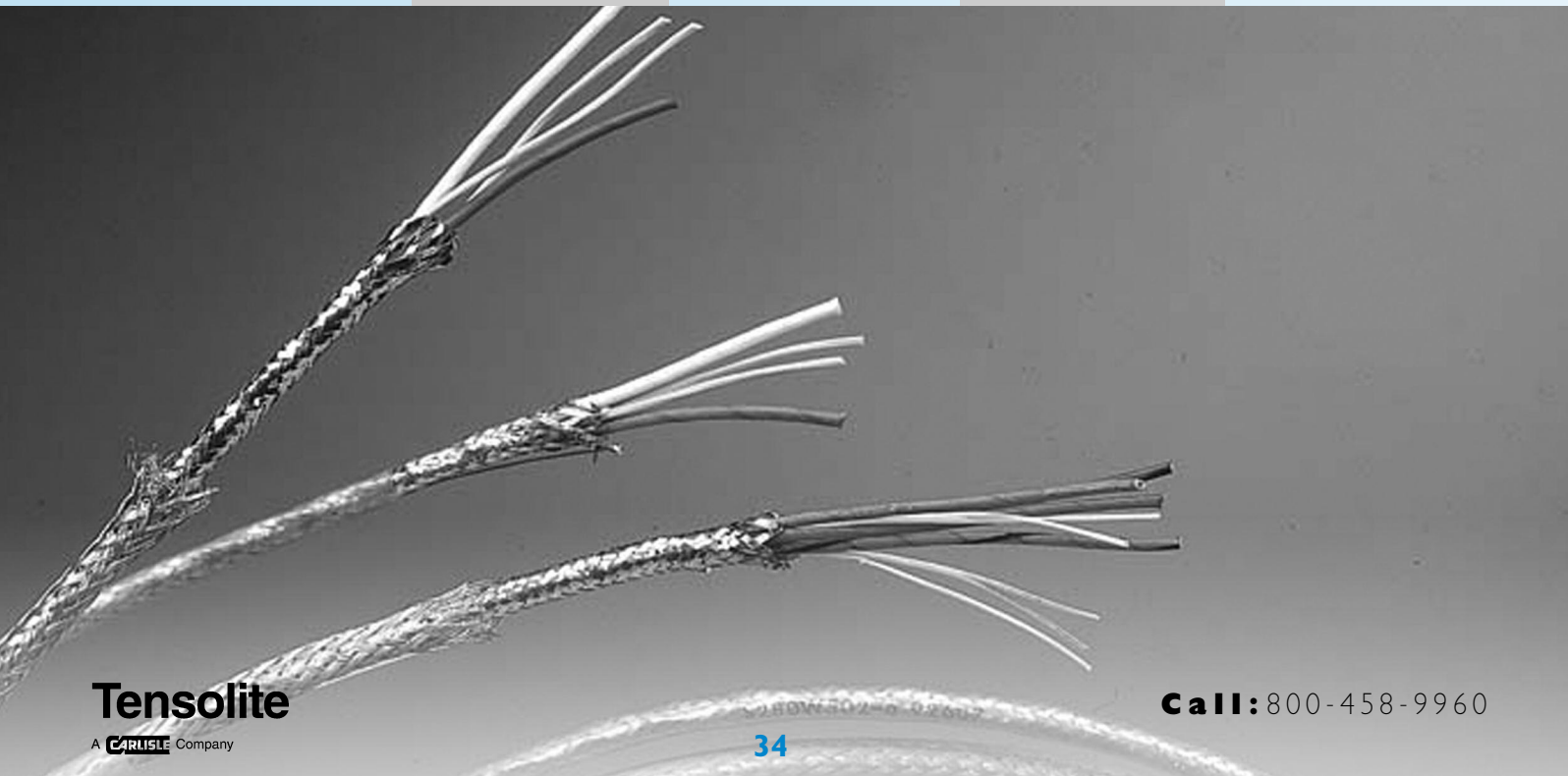
SCCA – Silver Coated Copper Alloy

TCC – Tin Coated Copper

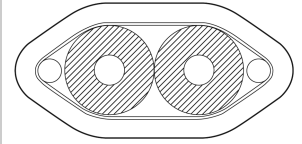
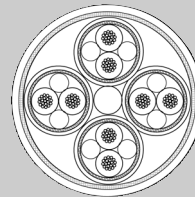
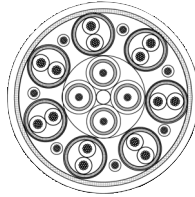
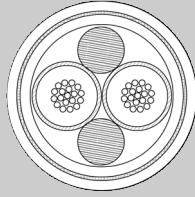
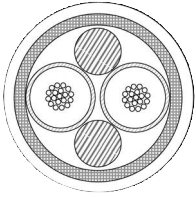
# NETflight™ Specialty

## Aerospace Grade Data Bus Cables

				
<b>Part Number:</b>	<b>28433/02171LX-4</b>	<b>24450/03089X-4(LD)</b>	<b>24483/03063LX-6(LD)</b>	<b>24463/9P025X-2(LD)</b>
<b>Typical Protocol</b>	USB 2.0	IEEE 1394a	IEEE 1394a	ARINC 629
<b>AWG Size(19 Strand):</b>	28 / 28	24	24 / 22	24
<b>Conductor Material:</b>	SCCA	SCC	SCCA / SCC	SCCA
<b>Conductor Diameter(in):</b>	0.0189	0.0255	0.0233 / .0295	0.0233
<b>Insulation Material:</b>	PTFE	PTFE	PTFE	PTFE
<b>Insulation Diameter(in):</b>	0.033	0.052	0.065 / .0415	0.054
<b>Pair #1:</b>	White, Green	White/Red, White/Green	White/Red, White/Green	White, Blue
<b>Pair #2:</b>		White/Orange, White/Blue	White/Orange, White/Blue	
<b>Power:</b>	Red, Black		White, Black	
<b>Cable Diameter(in):</b>	0.140	0.190	0.340	0.150
<b>Cable Weight(lbs/1000 ft):</b>	15.4	35	78	19
<b>Impedance(Ω)</b>	90 ± 13	110 ± 6	110 ± 6	100 ± 5.5
<b>Capacitance(pF/ft):</b>	16	12	12	13
<b>Velocity of Propagation:</b>	69%	79%	79%	79%
<b>Attenuation(dB/100 ft):</b>	14 @ 100MHz 24 @ 200MHz 36 @ 400MHz	6.5 @ 100MHz 10 @ 200MHz 16 @ 400MHz	11 @ 200 MHz 17 @ 400MHz 23 @ 800MHz	2.0 @ 10MHz 6.6 @ 100MHz



# NETflight™ Specialty



24473/9MI84X-2(LD)	CAN24TST120	NF28DVI-I	24473/05099X-8(LD)	26460/0606/X-2
CEPT-EI	CANbus	DVI-I	Modified DVI-D	SERIAL ATA
24	24	28 / 30 (7 strand)	24	26
SCCA	SCCA	SCC / SCCCS	SCCA	SCC
0.0233	0.0233	.0154 / .0120	0.0233	0.0159
PTFE	PTFE	Fluoropolymer	PTFE	PTFE
0.070	0.054	.042 / .055	0.055	0.048
White, Brown	White, Blue			
0.175	0.142	0.450	0.400	0.072 X 0.145
20.8	13.5	126	105	
125 ± 10	120 ± 12	100 / 75	100	100 ± 5
12	12	14.5 / 19.5	13	15
79%	79%	69%	78%	69%
	1.0 @ 1MHz			24.4 @ 750 MHz
	2.0 @ 6MHz			37.0 @ 1500 MHz
	2.7 @ 10MHz			



# NETflight™ Optical

## Aerospace Grade Optical Fiber Cables (Simplex)

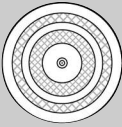
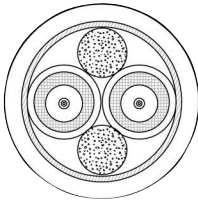
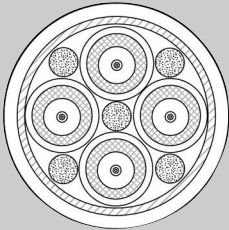
100°C Temperature Rating	NFO-125-1	NFO-125-3	NFO-125-5
Core	62.5/125 multi-mode	50/125 multi-mode	9/125 single mode
Cladding	glass	glass	glass
Primary Buffer Material	Polyacrylate	Polyacrylate	Polyacrylate
Primary Buffer Diameter	245 µ m	245 µ m	245 µ m
Secondary Buffer Material	PTFE/Polyimide	PTFE/Polyimide	PTFE/Polyimide
Secondary Buffer Diameter	915 µ m	915 µ m	915 µ m
Strength Member	aramid/glass	aramid/glass	aramid/glass
Jacket	Fluoropolymer	Fluoropolymer	Fluoropolymer
Nominal Cable Diameter	1.88mm	1.88mm	1.88mm
Nominal Cable Weight	4.65kg/km	4.65kg/km	4.65kg/km
Flammability per BMS 13-71	Pass	Pass	Pass
Smoke Generation per BMS 13-71	Pass	Pass	Pass
Toxicity per BMS 13-71	Pass	Pass	Pass

150°C Temperature Rating	NFO-150-1*	NFO-150-3	NFO-150-5
Core	62.5/125 multi-mode	50/125 multi-mode	9/125 single mode
Cladding	glass	glass	glass
Primary Buffer Material	High Temp Acrylate	High Temp Acrylate	High Temp Acrylate
Primary Buffer Diameter	245 µ m	245 µ m	245 µ m
Secondary Buffer Material	PTFE/Polyimide	PTFE/Polyimide	PTFE/Polyimide
Secondary Buffer Diameter	915 µ m	915 µ m	915 µ m
Strength Member	aramid/glass	aramid/glass	aramid/glass
Jacket	Fluoropolymer	Fluoropolymer	Fluoropolymer
Nominal Cable Diameter	1.88mm	1.88mm	1.88mm
Nominal Cable Weight	4.65kg/km	4.65kg/km	4.65kg/km

\*Meets requirements of EN4146-002

# NETflight™ Optical

## Aerospace Grade Ruggedized Optical Fiber Cable

	 <b>Single</b>	 <b>Duplex</b>	 <b>Quad.</b>	
<b>P/N:</b>	<b>NFO-XXX-X-1</b>	<b>NFO-XXX-X-2</b>	<b>NFO-XXX-X-4</b>	
<b>Component:</b>	Any Simplex Cable can be utilized in any Ruggedized Fiber Optic Cable constructions			
<b>Binder Material:</b>	Fiberglass Braid	Fluoropolymer	Fluoropolymer	
<b>Jacket Material:</b>	Fluoropolymer	Fluoropolymer	Fluoropolymer	
<b>Nominal Cable Diameter:</b>	2.74mm	4.95mm	5.72mm	
<b>Nominal Cable Weight:</b>	10.7kg/km	26.5kg/km	40kg/km	
<b>Flammability per FAR 25 Appendix F</b>	Pass	Pass	Pass	

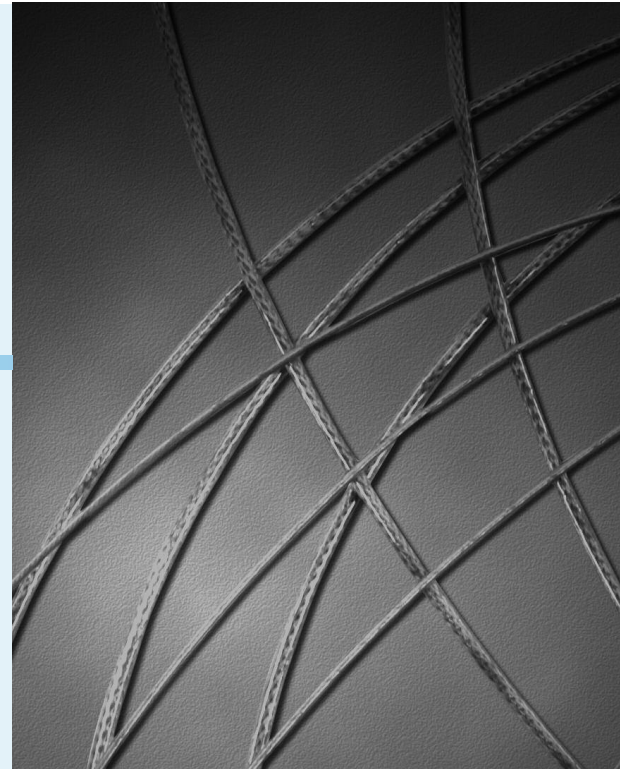


# Acculite® Balanced Line

Tensolite's family of differential balanced line cables provides a solution to the market demands imposed as a result of the ever increasing bandwidth and higher frequencies required by the latest high data rate applications. By utilizing a variety of dielectrics, shielding options, and cable configurations, Tensolite has developed a product offering that provides the best cost-to-performance in the industry.

## Options

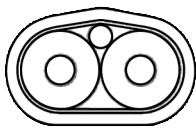
- Conductor/Drain Material: SPC — Silver-plated Copper
- Other materials for conductor, dielectric, shield and jacket are available upon request.
- Other dielectric options, i.e. solid or cellular, extruded or wrapped, are available upon request.
- Other shield options are available upon request.



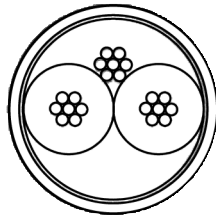
## Part Numbering Guide

Cable Construction	Conductor Stranding	Conductor AWG Size	Cable Type	Cable Configuration	Impedance
<b>BL</b>	<b>7</b>	<b>26</b>	<b>HT</b> -	<b>P</b>	<b>100</b>
Balanced Line			HT = Extruded Expanded PTFE Dielectric Foil Shield Black FEP Jacket	P = Parallel Pair	
			LT = Extruded Foamed Polyolefin Dielectric Foil Shield Gray PVC Jacket	T = Twisted Pair	

	BL726HT- P100	BL126HT- P100	BL726HT- T100	BL728HT- P100	BL128HT- P100	BL128LT- P100	BL730HT- P100	BL130HT- P100
<b>Physical Traits</b>								
Conductor AWG	26	26	26	28	28	28	30	30
Conductor Stranding	7 x 34	Solid	7 x 34	7 x 36	Solid	Solid	7 x 38	Solid
Conductor Material	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC
Conductor Diameter (inch)	0.019	0.016	0.019	0.015	0.0126	0.0126	0.012	0.010
Dielectric Diameter (inch)	0.045	0.040	0.045	0.035	0.031	0.035	0.029	0.025
Drain Wire AWG	30	28	26	28	28	28	30	30
Drain Wire Stranding	7 x 38	Solid	7 x 34	7 x 36	Solid	Solid	7 x 38	Solid
Drain Wire Material	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC
Shield Diameter (inch)	.051 x .092	.049 x .082	.092	.047 x .072	.041 x .064	.044 x .072	.038 x .060	.033 x .052
Jacket Diameter (inch)	.063 x .105	.061 x .095	.105	.060 x .086	.058 x .081	.060 x .088	.055 x .077	.050 x .069
<b>Electrical Traits</b>								
Impedance (ohms)	100	100	100	100	100	100	100	100
Capacitance (pF/ft)	12	12	12	12	12	13	12	12
Velocity of Propagation (%)	85	85	85	85	85	77	85	85
Conductor DC Resistance (ohms/1,000')	38	40	38	60	64	64	93	102
Attenuation (dB/100')								
@ 100 MHz	10	11	11	13	14	12	16	18
@ 400 MHz	20	22	23	26	28	24	32	36



Parallel Pair



Twisted Pair

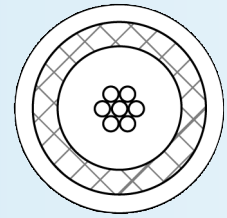


# Acculite® Coaxial

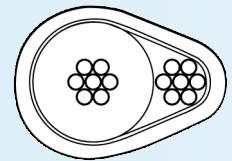
Tensolite produces many different versions of coaxial cable by utilizing combinations of primary dielectric and shielding configurations. The ACCULITE® system provides Tensolite with the ability to develop a wide range of coaxial constructions to fit applications requiring small, flexible cables with highly engineered electrical properties.

## Options

- Conductor/ Braid Material: SPC — Silver-plated Copper  
   TPC — Tin-plated Copper  
   SPCA — Silver-plated Copper Alloy
- Other materials for conductor, dielectric, shield and jacket are also available upon request.
- Other dielectric options, i.e. solid or cellular, extruded or wrapped, are also available upon request.
- Other shield options are also available upon request.



Braid



Foil Drain

## Part Numbering Guide

Cable Construction	Conductor & Drain Stranding (if Foil Shield)	Conductor & Drain AWG Size (if Foil Shield)	Cable Type	Shield Type	Impedance
<b>C</b>	<b>7</b>	<b>26</b>	<b>HT</b> –	<b>B</b>	<b>50</b>
Coax			HT = Extruded Expanded PTFE Dielectric SPC Shield (if Braid) Black FEP Jacket	B = Braided	
			LT = Extruded Foamed Polyolefin Dielectric TPC Shield (if Braid) Gray PVC Jacket	F = Foil with Drain (Drain Same Size as Conductor)	



	C726HT- F50	C726HT- B50	C728HT- F50	C730HT- F50	C730LT- B75	C132HT- B93	C133LT- F93	C734HT- B93
<b>Physical Traits</b>								
Conductor AWG	26	26	28	30	30	32	33	34
Conductor Stranding	7 x 34	7 x 34	7 x 36	7 x 38	7 x 38	Solid	Solid	7 x 42
Conductor Material	SPC	SPC	SPC	SPC	TPC	SPC	SPC	SPCA
Conductor Diameter (inch)	.019	.019	.015	.012	.012	.008	.0073	.0093
Dielectric Diameter (inch)	.044	.046	.035	.027	.055	.049	.046	.046
Shield Type	Foil	Braid	Foil	Foil	Braid	Braid	Foil	Braid
Shield Diameter (inch)	.047 x .064	.064	.038 x .052	.030 x .040	.073	.062	.038 x .052	.060
Jacket Diameter ( inch)	.059 x .075	.076	.052 x .065	.044 x .053	.087	.076	.052x.065	.074
<b>Electrical Traits</b>								
Impedance (ohms)	50	50	50	50	75	93	93	93
Capacitance (pF/ ft)	24	24	24	24	18	13	14	13
Velocity of Propagation (%)	85	85	85	85	77	85	77	85
Conductor DC Resistance (ohms/1,000')	38	38	60	93	98	160	185	270
Attenuation (dB/100')								
@ 100 MHz	14	9	17	22	8	9	14	10
@ 400 MHz	32	19	35	49	16	19	34	21



# Acculite® UT

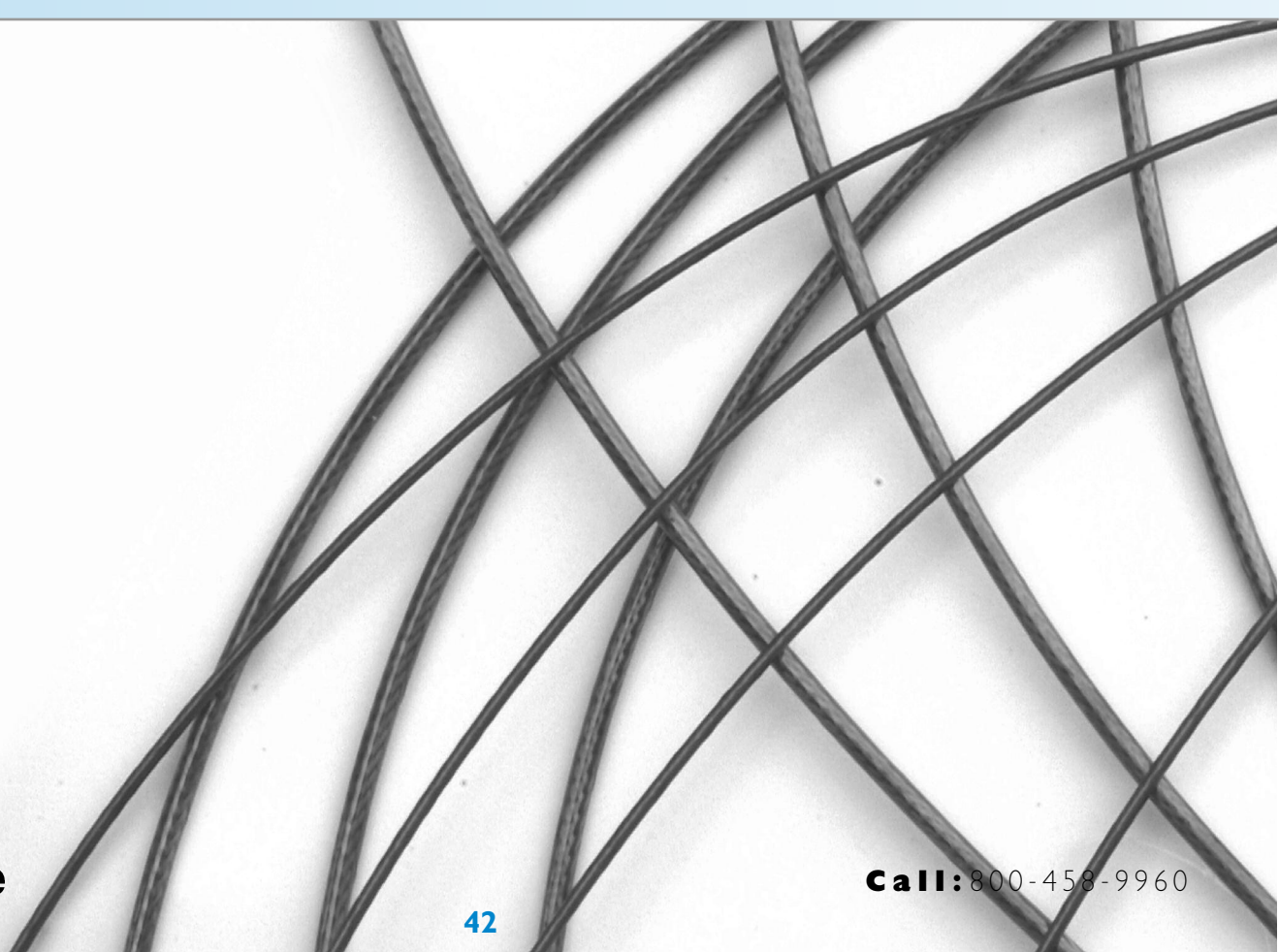
## Ultra-Thin

### Miniaturized, lightweight PTFE insulated lead wire

Tensolite ACCULITE® UT wire is a series of lightweight, smaller diameter lead wire for applications requiring thinner wall thickness and smaller conductor sizes.

### Applications

- Subminiature Thermocouple leads
- Test Equipment Wiring
- Miniature slip ring and gyroscope
- Miniature brush block assemblies
- Strain gauge and transducer leads
- Medical Equipment
- Tone arm and hearing aid wire
- Micro component interconnect wiring
- Radio and Television circuitry
- Telemetering equipment
- Aerospace and Missile instrumentation



Product Code	AWG Silver Plated Copper	Dielectric Material	Nominal wall Thickness	Finished Diameter Min/Max	Max D.C. Resistance Ohms/ 1000ft. @ 20 °C	Nominal Weight/ (lbs/1000ft)
S26UT	26 (1/26)	PTFE	0.0040	0.022 / 0.025	42.1	1.000
S28UT	28 (1/28)	PTFE	0.0035	0.018 / 0.021	66.4	0.650
S736UT	28 (7/36)	PTFE	0.0040	0.021 / 0.025	62.0	0.768
S30UT	30 (1/30)	PTFE	0.0030	0.015 / 0.017	102.0	0.430
S738UT	30 (7/38)	PTFE	0.0040	0.018 / 0.022	97.8	0.573
S740UT	32 (7/40)	PTFE	0.0040	0.015 / 0.020	166.0	0.379
S742UT	34 (7/42)	PTFE	0.0035	0.014 / 0.016	258.0	0.261
S744UT *	36 (7/44)	PTFE	0.0035	0.012 / 0.015	630.0	0.200

\*Manufactured with silver-plated copper alloy conductor

## Performance

- Operating Voltage:  
100 Vrms, 60 Hz, or 300 Vdc,  
Max.
- Operating Temperature:  
-90 °C to 200 °C
- Colors Available:  
Black, Brown, Red, Orange,  
Yellow, Green, Blue, Violet, Gray,  
White
- RoHS Compliant



# Acculite® Specialty Construction

## Coaxial & Twisted Pairs Cables



Tensolite provides extensive engineering support to assist your project team in designing and manufacturing speciality cables. We specialize in custom designed, precision engineered cables to fit the toughest design criteria.

Our design team knows that many applications require hybrid constructions in order to meet stringent packaging requirements. We work closely with end users to develop prototype samples for design verification. Tensolite has produced multiconductor cables and special constructions designed to address the following:

- Interprocessor Connection
- Precision Clock Line coaxial cables for critical timing applications
- High Density I/O applications
- Multiconductor Twisted Pair Cables for systems requiring low skew between signal lines
- Analog Read/Write Channel cables
- Reduced Diameter multiconductor applications

The following product tables list some of our capabilities in custom engineered cables. These tables are not all inclusive, representing only a fraction of the possibilities available. "Standard" construction does not apply since the majority of the cables we manufacture are One-of-a-Kind.

## Multiconductor Coaxial Cables

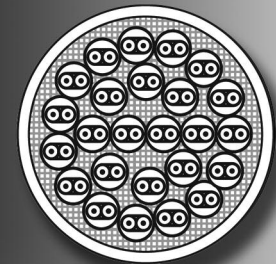
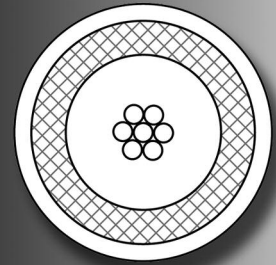
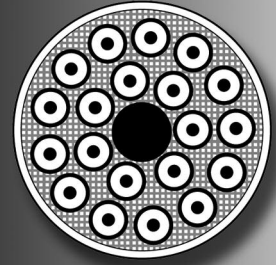
- Component Counts from 4 coaxes to 44 individual coaxes
- Dielectric materials: PTFE or Polyolefins
- Braided shields and Aluminum/Polyester drain wire configurations available
- Combinations of Braid and Aluminum/Polyester shields available to provide improved EMI/RFI Performance.

## Precision Miniature Coaxial Cables

- Conductor sizes range from 28 to 34 AWG
- PTFE Dielectric
- Extremely tight electrical and mechanical tolerances
- Stable impedance and minimal skew designs available

## Multiconductor Twisted Pair Cables

- Conductor counts range from 2 through 26 pair
- Dielectric materials: PTFE or Polyolefins
- Minimal skew designs available producing low line-to-line skew



# Custom Cable Specifier

This page can also be completed on Tensolite's web site, [www.tensolite.com](http://www.tensolite.com)

Customer Name: _____	Date: _____
Company: _____	Tensolite Rep: _____
Address: _____	Ph #: _____
Ph #: _____ Fax #: _____	Fax #: _____
E-Mail: _____	E-Mail: _____
Sample Quantity Needed: _____	Date Samples Needed: _____
Annual Production Qty: _____	Date Production Starts: _____
Price per foot desired: _____	Budgetary or Funded Project: _____

## BALANCED LINE

### Electrical Characteristics

Impedance (ohms)			
Signal Speed/Data Rate			
Operating Frequency			
Attenuation			
Dielectric Constant			
Velocity of Propagation			
Cross Talk			
Skew Delay (within pair)			
Skew Delay (between pair)			

### Mechanical Characteristics

Conductor Gauge Size			
Conductor Material			
Conductor Construction			
Dielectric Material			
Dielectric Construction			
Shielding Type			
Jacket Material			
Temperature Rating			
Classifications Needed			
Maximum Cable OD			

### Composite Cables

No. of Conductors	AWG	No. of Twisted Pairs	AWG	No. of Coaxial Cables	Part No.

